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Industry Maintaining Its Advantages

Highest production in 1931, week ending Aug. 8, average daily output 2,551,807 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Curtailment of Crude Oil Production and Open Winter Help Keep Better Relation Between Supply and Demand

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1931 was for week ending Sept. 5 with average output of 1,736,007 bbls.

Continued curtailment of crude oil production accompanied by a maintenance of consumption at a high level for this season, due to the open winter being experienced over a large section of the United States, strengthens the belief the industry will be able to enter the main consuming season this year in a good position to enjoy advantages gained through its conservation policy. Refiners continue to add substantial quantities of gasoline to storage, the increase last week amounting to 750,000 barrels and some California operators have so far failed to co-operate in the conservation program designed to limit crude oil production in that state to 456,700 barrels daily. These are among the factors which necessitate a close watch on the situation and a continuation of every effort to maintain a balance between supply and demand of both crude oil and gasoline.

The outlook becomes more hopeful as each week of this winter passes without any exceptional spread between production and consumption. The industry feels improvement in the general situation will be more evident starting about the first of March and as consumption increases during the Spring far better conditions as regard price will be experienced. The gasoline market in the Mid-Continent area continues to display strength, which is regarded generally as a most encouraging sign. While figures on total current consumption are not available, reports from the different areas indicate a greater than normal use of automobiles due to good motoring weather.

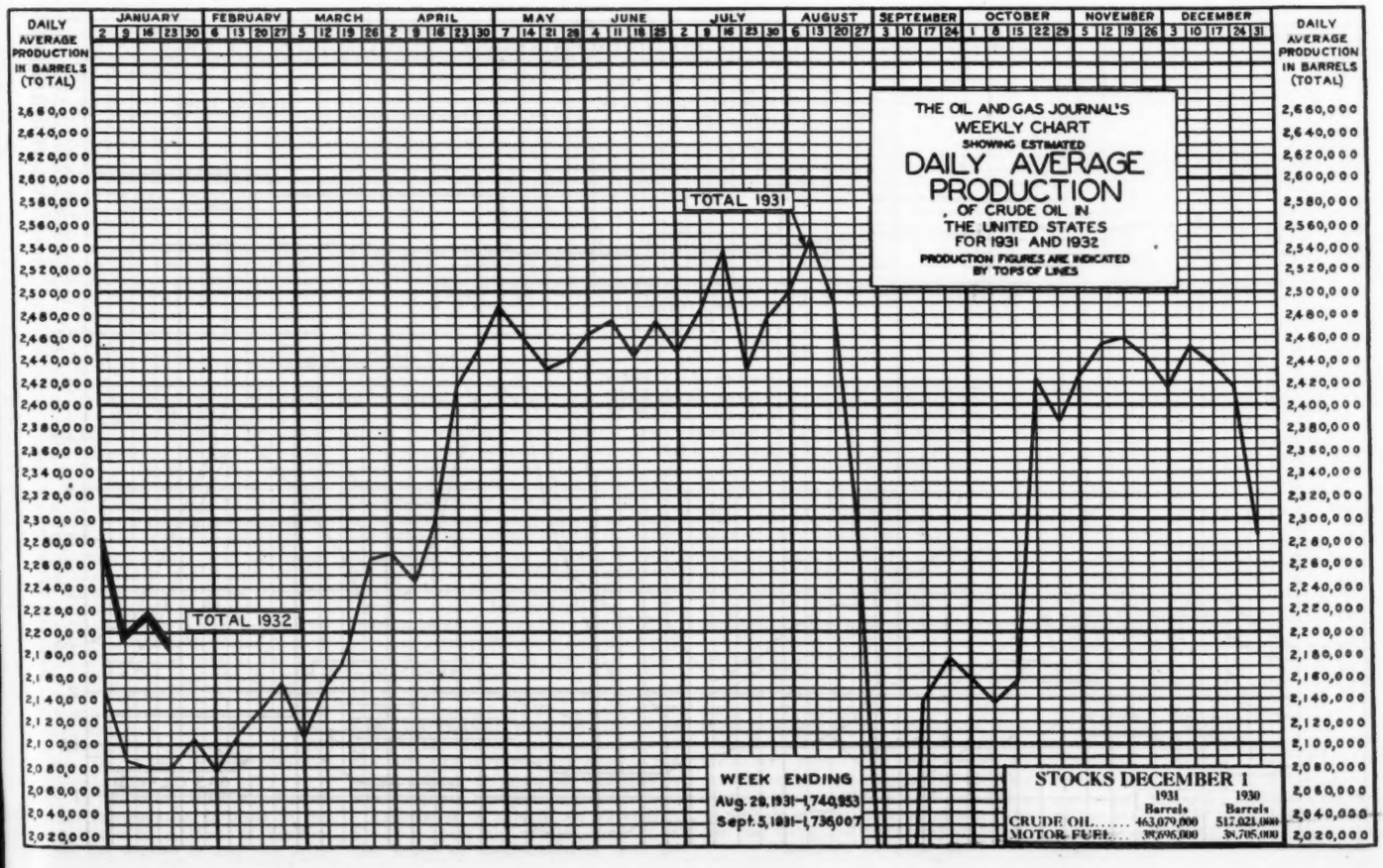
However, it is well to keep in mind a large part of the winter season is still to come and the greater the curtailment of crude oil production and the manufacture of gasoline at this time, the better the outlook will be for the rest of this year, especially from a price standpoint. And the one main object which should guide all operations is to secure and secure quickly much better prices for both crude oil and gasoline.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for week ended January 16 and a comparison with the previous week follows:

	Jan. 16	Jan. 9
Oklahoma—		
Oklahoma City	103,990	144,730
Seminole-St. Louis	127,885	122,915
Remainder of State	209,220	213,470
Total Oklahoma	441,095	481,115
East Texas—		
Kilgore	112,086	108,129
Lathrop	112,368	110,580
Joiner	108,667	110,818
Total East Texas	333,121	329,527
West Texas	175,235	173,088
North Central Texas	75,028	70,453
Texas Panhandle	49,212	51,641
East Central Texas	51,152	51,610
Gulf Coast—Texas	105,662	106,403
Southwest Texas	59,036	58,056
Total State of Texas	848,446	840,778
North Louisiana	28,710	29,210
Gulf Coast—Louisiana	27,905	26,361
Arkansas	34,250	34,255
Kansas	98,945	100,935
Eastern	122,000	122,000
Rocky Mountain	81,782	84,804
California—		
Santa Fe Springs	66,500	64,000
Long Beach	78,500	77,000
Playa Del Rey	21,000	20,750
Elwood	16,500	16,500
Kettleman	62,250	61,500
Remainder of State	263,500	260,250
Total California	508,250	500,000
Total United States	2,191,383	2,219,458

→ Decrease 28,075 Bbls. Daily ←



Upward Trend in Several Products

Oklahoma Gasoline, Kerosene, Tractor Fuel and Furnace Oils Continue Advance. Close Fuel Oil Contracts With Railroads

By C. O. Willson

Oklahoma gasolines, tractor fuels and furnace oils, which have shown consistent strength since the first of the year, continued to improve over the past week and prices on all grades are from one-eighth to one-fourth cent higher than last week. A limited supply brought about by curtailment of crude oil runs to stills with a demand in line with seasonal conditions, has brought a sellers' rather than a buyers' market in these products and the former have been successful in maintaining price increases.

U. S. Motor gasoline advanced to a low of 3 cents the first of the week and manufacturers generally were asking 2¼ cents for the 26-70 grade of natural gasoline. These new quotations represented advances of one-fourth cent. Similar advances in other grades of refinery gasoline and natural gasoline materialized. Kerosene continued as a surprise product of the refinery list when a low of 2⅝ cents was established for the 41-43 water white grade with several of the larger refiners quoting 2¾ cents. All grades of tractor fuels and furnace oils have advanced at least one-eigth cent with the better grades still scarce at these higher levels.

The foregoing cover the favorable aspects of the Oklahoma and Mid-Continent market from the viewpoint of the sellers. In contrast to furnace oils, U.G.I. gas oil and most of the regular grades of fuel oils were slow and sellers in some cases were having difficulty in maintaining prices. The products running from 40 to 90 cold test were especially weak, with little demand regardless of price. The demand for steam refined stocks and bright stocks has not improved and lower prices in competitive areas continue to menace the price structure which manufacturers are attempting to maintain for Oklahoma stocks. With Pennsylvania grade stocks selling in Pennsylvania as low as 18 cents a gallon and Gulf Coast stocks at lower prices it is becoming apparent that adjustments in Oklahoma prices will be necessary if sellers are to hold their present outlets.

Railroad Contracts

The past week brought additional signatures to contracts between railroads and refineries covering fuel oil requirements for 1932. There has been considerable difference of opinion among railroad purchasing departments and refinery sales heads and in some cases no agreements has yet been reached.

One large railroad user in Oklahoma has closed contracts which start on a basis of 50 cents for the fuel oil at the present time with 36 degrees gravity crude oil selling at a posted schedule of 77 cents. The refiner is to get 60 per cent of any advance in the posted price of crude oil on his fuel oil contract until a maximum price of 75 cents per barrel is reached. This in effect, means that the seller will share in any crude oil advance until a price of $1.18 is reached for the 36 gravity grade. On the down side, the 50-cent basis is maintained without change in the first 17-cent reduction in the posted crude oil price. Thus, the posted price for 36 gravity crude oil can drop from 77 to 60 cents and the refiner continues to get the base price of 50 cents for his fuel oil. Under 60 cents the refiner takes 60 per cent of any decline in the posted price with a minimum of 40 cents. This means that if the posted price for 36 gravity crude oil dropped to 54 cents per barrel the refiner would receive the minimum price of 40 cents but any additional declines would not affect the price received by the seller.

The contract offered by another railroad starts with a base price of 55 cents based on present posted price of 77 cents for 36 gravity crude oil. With this contract the refiner is not to share in any advance in crude oil until the posted price for the 36 gravity grade reaches $1.12 cents. At that point, the refiner obtains 60 per cent of crude price advances until a maximum of 85 cents is reached. Under this contract, the maximum price of 85 cents for the fuel oil would not be secured until crude oil reached a posted price of $1.62. In case of a reduction in the posted price for crude oil, the fuel oil price takes 60 per cent of any decline in the 36 degrees gravity grade with a minimum of 40 cents for the fuel oil. Thus, the refiner would absorb 60 per cent of any decline in present posted crude oil prices until

(Continued on Page 81)

REFINED MARKET BAROMETER

Burning oils were reported strong in several refining areas over the past week with scattered strength apparent in the gasoline market. The recent improvement in the kerosene export demand has been reflected in both the domestic and export prices except on the West Coast. The strength in this market, coupled with a heavy seasonal demand, has brought a firm or advancing market in all areas for furnace oils and other special fuels. Natural gasolines are strong both in California and Mid-Continent. Heavy fuels and industrial grades of gas oils continue slow, although prices are generally steady. Price changes in the list of lubricants was downward in Pennsylvania and East Coast. Wax prices steady.

Mid-Continent—Refinery and natural gasolines higher in price. Kerosene, furnace oil and tractor fuels strong and prices higher when any changes were made. Low cold test fuels and gas oils steady with little demand for high cold test material. Cylinder stocks weak.

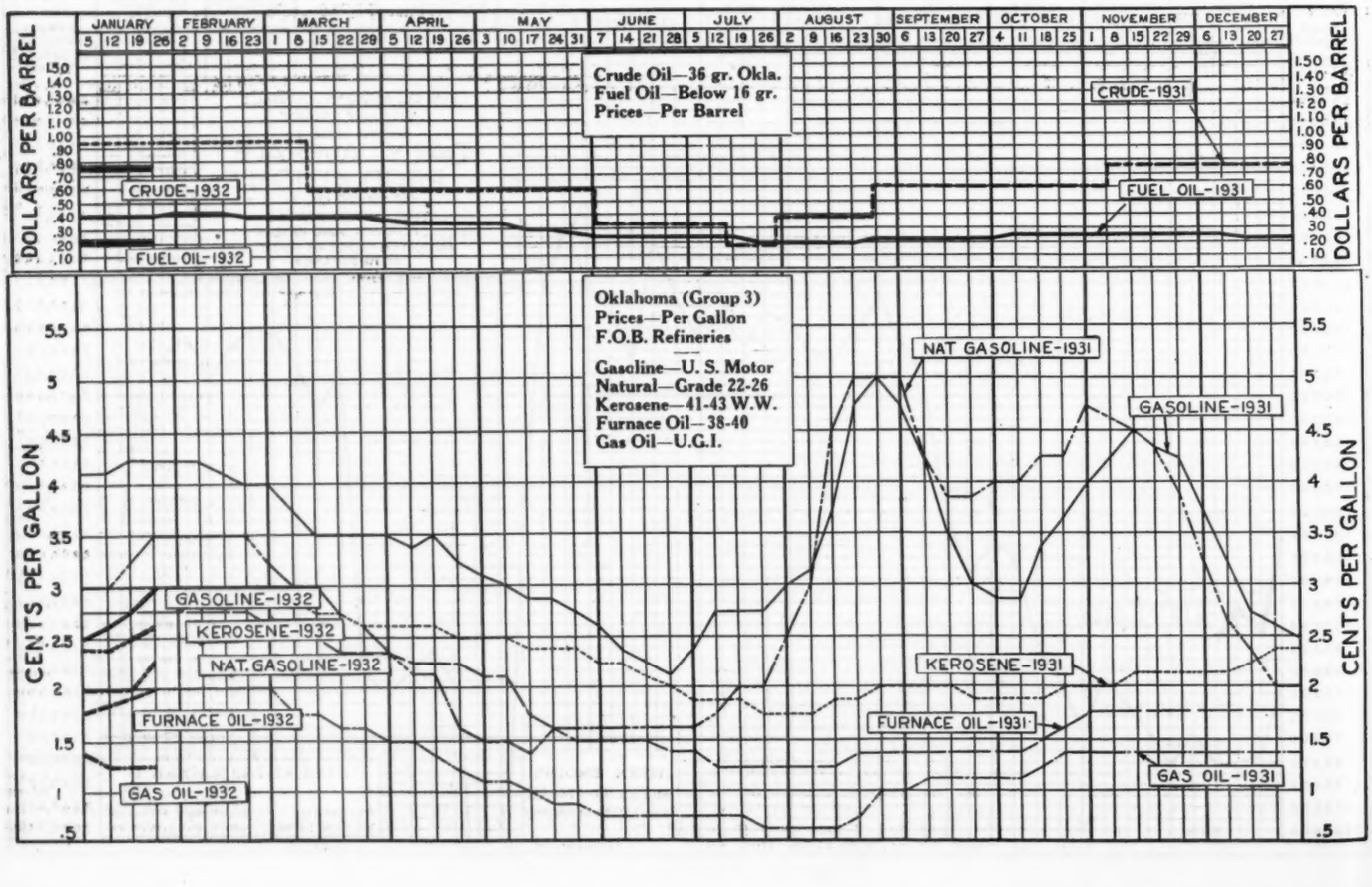
East Coast—Major refiners again reduce gasoline tank car prices to meet competition. Kerosene market strong and export prices higher. Fuels steady. Lower prices for bright stock.

Chicago—Gasoline market stronger. General advance in kerosene, tractor fuel and furnace oil. Better tone to fuel oil and gas oil. Special naphthas steady.

Pennsylvania—Gasoline prices lower. Kerosene strong. Reductions in some grades of bright stock and neutral oils.

California—Weak refinery gasoline reflects uncertainty regarding crude oil situation. Natural gasolines strong. Kerosene prices lower.

Gulf Coast—Gasoline unchanged. Kerosene domestic and export market stronger. Neutrals unchanged.



A. P. I. Directors Consider Situation

No Definite Action Taken at Meeting in New York. Production Problems, World Conference and Gasoline Tax Discussed

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Jan. 18.—Directors of the American Petroleum Institute meeting here today devoted the greater part of their one-day session to a discussion of production and refining problems, but although earlier indications pointed to probable action looking toward suggested further curtailment of domestic output of crude the meeting adjourned without definite action being taken. The board adopted a resolution opposing the proposed increase in the gasoline tax rate in the district of Columbia from 2 to 4 cents and joined with the National Automobile Chamber of Commerce in opposition against the levy of an excise tax on sales of automobiles and other motor vehicles. The board passed a resolution of regret on the recent death of Robert R. Penn of Dallas, Tex., former vice president and director, and considered further the proposal of Rumanian producers for an international conference on world petroleum problems.

Discussion of production problems brought about a proposal that the powers of the Committee of Eleven be enlarged but a motion to this effect was withdrawn when sufficient sentiment for its passage failed to develop. Other aspects of the production situation were gone into, including the suggestion that recommendations be made for restriction of domestic output to 2,000,000 bbls. per day but definite action was postponed. It was agreed among all the 33 directors present that the problem of overproduction is in no sense temporary and that what the industry and nation need is a long time program designed to conserve the country's crude petroleum resources to "save the industry from drowning in a flood of oil."

International Conference

A second communication from the Association of Rumanian Producers of Petroleum, reiterating that group's belief that the Kessler plan might properly form the subject of an international conference of petroleum interests but asking that the American Petroleum Institute present an alternative suggestion for consideration was taken up by the board. The idea of an international meeting, however, apparently failed to arouse much interest and the matter was disposed of by instructing President Beaty to reply to the communication. The idea of an international conference has been consistently frowned upon by many of the oil leaders in this country on the ground that any concerted action which might be agreed upon could not be made effective in the United States because of the laws of this country.

The resolution dealing with the gasoline tax situation in the District of Columbia reads as follows: "The House of Representatives at Washington has passed a bill to increase the tax on gasoline in the District of Columbia from 2 to 4 cents. It is recognized that as the Virginia tax is 5 cents and the Maryland tax 4 cents, this increase in the district would equalize the levies and ease a local marketing situation. For this reason interests immediately adjacent to the district may regard the proposed increase as unobjectionable.

"But, on the other hand, in view of the larger consideration involved in the whole nation-wide problem of gasoline tax rates and evasion of this tax, it is felt that a federal enactment of a 4-cent tax would establish a positively disastrous precedent. It is apparent that the whole question of tax rates, tax administration and tax evasion is one of the most serious problems the industry now confronts. If Congress, after a thorough investigation should reject, or the President should veto, an increase of the district tax, it would, on the other hand, strongly support the industry's conten-

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Oil Men Write to Chairman Capper

E. B. Reeser and Frank B. Fretter Among Those Who Protest Against Increased Tax in District of Columbia

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Jan. 18.—The date for the public hearing by the Senate committee on the bill to increase the gasoline tax of the District of Columbia from 2 to 4 cents will be announced by Senator Arthur Capper (Kans.), chairman, as soon as a report on that measure has been received from the Bureau of Efficiency.

The bill was rushed through the House of Representatives without public hearings being accorded either to citizens of the District or to civic organizations that in the past have been allowed to present their views on all such local proposed legislation in face of the well known universal opposition to an increase in the gasoline tax.

The chief purpose of the increase in the gasoline tax was to provide a fund to allow a reduction in the amount of taxes paid by the federal Government as its share in meeting the expenses of the national capital.

The steam roller methods of the House of Representatives have resulted in indignant protests from every civic organization and from all of the five newspapers of this city, with the result that Senator Capper has given assurances of unlimited opportunity for a discussion of the tax bill before his committee, which has charge of all District legislation in the Senate.

The Bureau of Efficiency is the clearing house for all kinds of information affecting District of Columbia legislative matters. It is a fact-finding bureau. Questions of policy in legislation are left to the Senate and House of Representatives.

The report of the Bureau of Efficiency may not be completed for 10 days or two weeks.

The American Automobile Association is also preparing a comprehensive report on gasoline taxation throughout the United States in order to demonstrate the injurious effect high gasoline taxation is having on the automotive industry.

Reeser Writes Chairman

E. B. Reeser, president of the Barnsdall Corp. and former president of the American Petroleum Institute, has written a letter, now in the hands of Senator Capper, saying:

"The petroleum industry is struggling under the many unusual conditions now prevailing. One of the several important difficulties which reputable companies are up against is the evasion of gasoline taxes by its less reputable competitors. An analysis shows very clearly that when the gasoline tax exceeds 2 cents per gallon the evasion becomes more serious and in proportion to the increase to higher levels we find the evasion grows more and more in volume.

"The oil industry is trying to carry out a program over the entire nation based on the theory that it is unfair to tax the petroleum industry as they are now doing through excessive gasoline taxes, and further that a high tax means diminished revenue.

"The industry does not oppose a reasonable tax to be used in the maintenance of the highways, but we do object to an unreasonable amount. I, therefore, trust that you will use your good offices in defeating an increase in the District of Columbia.

F. B. Pretter Files Protest

Frank B. Fretter, president of the National Refining Co. of Cleveland, Ohio, has also written to Senator Capper asking him to make an investigation of gasoline taxes in the various states and says that he believes he will arrive at the conclusion that the tax of 2 cents is as high as the gasoline business should be taxed.

"The operation of the automobile," says Mr. Fretter, "is not confined to the rich. It has been a godsend to thousands of working people who have been able to see more of the country and give their children more pleasure in country riding, and to increase this cost will prevent the workingman from being able to use his automobile. Moreover, a very large percentage of automobiles are used as a means by which men make their living and the additional tax has the effect of curtailing their incomes.

"Then, too, it is not fair to the oil industry. That industry has without complaint accepted the tax of 1 or 2 cents per gallon assessed by the various states, but as soon as it was increased to an abnormal figure it necessarily became a hardship to the oil industry."

Mr. Fretter says the quantity of gasoline used will be limited if the prices reach to a high figure.

"Above all," he adds, "the high tax has enabled the racketeers to enter the oil business and by evading the tax they have made a great deal of money and caused the legitimate companies to suffer on account of the low prices made due to tax evasion.

"We feel that if the federal Government would set 2 cents as a fair tax in the District of Columbia then there would be more hope of the states following, helping the oil industry and above all defeating those engaged in racketeering, causing a demoralization in prices."

Texas Resolution

The Texas division of the Mid-Continent Oil and Gas Association has adopted resolutions protesting against a federal tax on gasoline and has sent them to the senators and congressmen from that State.

HEARING ON OIL TARIFF BILL PROMISED EARLY IN FEBRUARY

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Jan. 18.—A public hearing on the proposed tariff on petroleum and products will take place during the first week of February.

The date has not been decided upon but today Chairman James W. Collier, of Mississippi, definitely agreed with Representative Disney of Oklahoma that he would hold this hearing before the Ways and Means Committee of the House of Representatives during the early days of February provided the revenue bills have been disposed of at that time. The hearing will closely follow final action on revenue bills.

It has been well known that since the Democratic party took charge of legislation in the House of Representatives neither Speaker Garner nor the chairman of the Ways and Means Committee has been favorable to opening the question of tariff legislation for petroleum because of the difficulty in preventing opening the entire subject of the tariff and that is what they are positively opposed to.

Proponents of a tariff on oil believe, however, there are enough members in the House of Representatives from oil states to force a report on an oil bill from the Ways and Means Committee once that committee has taken up the subject. They will be appealed to by one state delegation after another and they can bring the bill before the House if 145 of them can be mustered to sign a petition for that purpose.

But the way for passing an oil bill through the House is not free from obstacles by any means. It was one thing for the Democratic minority to goad the Republican majority on to tariff legislation for oil but it is quite a different proposition when a Democratic majority has full responsibility for legislation on the eve of a national election.

It is quite definitely known that the Atlantic Coast states—Maryland, Delaware, New Jersey, New York, Massachusetts, Rhode Island, Connecticut, New Hampshire, Vermont and Maine particularly—will oppose any tariff on oil almost unanimously on account of their industrial interest in cheap fuel oil, which in the case of New England, distant from the coal fields and facing higher freight

(Continued on Page 84)

Magnetometer Survey of Jackson Area

Geological and Geophysical Characteristics of This Natural Gas Section in Mississippi Are Described

By L. Spraragen

The Jackson anticline was probably first recognized by E. W. Hilgard who mentioned it in his report, "Geology and Agriculture of Mississippi, pp. 128-129, published in 1860.

The possibility of obtaining oil and gas in the Jackson, Mississippi area was next given considerable publicity by Oliver B. Hopkins' report published by the U. S. Geological Survey in Bulletin 641.

The following paragraphs dealing with the surface structure are taken from Hopkins' report.

"On the accompanying map (refered to as Plate 1 in this article) the lines are drawn at intervals of 20 feet and are marked with the elevation above sea level of the top of the hard middle limestone member of the Vicksburg. . . .

"The hard limestone near the middle of the Vicksburg formation was chosen as the datum of reference, or key rock, because it contains the most clearly recognized and easily traced beds in this region. Elevations were taken on all the outcrops of this limestone in the area, and where the outcrops are numerous the structure is definitely determinable and is outlined with solid contour. Where so represented the contours are believed to be correct within 10 feet. Where exposures of the limestone are far apart, and where other less well-defined beds are used for reference and the interval to the limestone calculated, broken contours are used. Finally, where the data were still less reliable the broken contours are questioned. In general, it is believed that the unquestioned broken contours are correct within 20 feet. Although much of the structure is outlined by broken contours, there are enough solid ones to show that the structure is essentially as represented.

Jackson Anticline

"The city of Jackson is situated near the center of a broad, gentle fold, which shows a domelike arch in cross section from northwest to southeast, and a terrace-like form from northeast to southwest as shown on Plate 1. Near the southwestern and southern parts of the anticline the dips are steepest, as much as 60 to 70 feet to the mile; and in the northwestern and southwestern parts the dips are gentle, at a rate of 30 feet and less per mile. The northern extent of this fold has not been determined, and as Hilgard (E. W. Hilgard, Geology and Agriculture of Mississippi, pp. 128-129, 1860) has stated the beds are at least as high at Jackson as at Canton, 25 miles farther north. The beds are nearly horizontal in the intermediate area but have a slight northerly dip. Thus the fold is more strongly developed here than farther north, even if it continues beyond the area mapped. This development of the fold necessarily follows from its transverse position with regard to the dip of the beds, which, if the deformation were equal at both ends, would make the elevation of the beds lower on the south.

"From a short distance north of Jackson there is probably a slight dip northward toward Madison Station, although the exposures are not sufficient to determine its amount. This dip is evident from the presence of lower beds at Jackson than are exposed in the area to the north. Just where the southerly dip observed at Jackson flattens and is reversed in direction cannot be accurately stated, but it is certainly only a short distance north of town.

"The anticline is represented on the accompanying map (Plate 1) as more flat topped than it really is, because it is not possible, with the information available, to locate accurately the contours above 460 feet. That the fold in the area rises above that level is proved by the presence of the middle clay member of the Jackson at such an elevation on the hills that if the interval between its top and the top of the limestone be added the limestone would lie at about 500 feet. This proves that the fold is at least that high, but how much higher can not be stated, because the clay is uniform in lithology, and no key beds have been recognized in it. . . .

Promising Areas

"As shown on Plate 1, the Jackson anticline is a broad, gentle, semicircular fold from which the rocks dip in three directions. Its northern extension is not known, and neither is the shape of its top, a feature of special significance in connection with the location of favorable areas for prospecting. The reasons for believing it is not as flat-topped as indicated on the map have been given. A gentle rise of the strata from the south edge of Jackson for about 2 miles north and the presence near the north edge of town of beds lower than any exposed farther north suggest the culmination of the fold near that place.

"In the absence of definite knowledge regarding the exact form of the top of this fold there are two possible interpretations which are worthy of consideration because of their bearing on the possible accumulation of oil and gas: Either the fold has a well-defined axis from which the rocks dip gently but probably at an increasing angle or the top of the fold is flat and without a well-defined axis, and the dips become flatter above the 460-foot contour.

"The evidence seems to indicate that the fold has a fairly well-defined axis, and that the anticline along this indefinite line is much higher than 460 feet. . . . The best chance for success appears to be near the supposed axis, where the anticline is believed to be highest and where there is a suggestion of such a cross fold, as near the north edge of Jackson in Sections 34 or 26-6n-1e."

Beginning of the Development

Following the publication of Hopkins' report on the Jackson area several wells were started. Prior to 1919 two fairly deep wells were drilled on the Jackson anticline 4 miles north of Jackson. In 1920 and 1921 two shallow wells were drilled near the southern edge of the anticline. Neither of these wells was drilled according to the recommendations of Hopkins' report as to the top of the structure and so could be regarded as inadequate to test the structure.

It was during the following years that geophysics began to receive attention from the major oil companies in the United States and large areas were prospected by means of the magnetometer, torsion balance, and seismograph. In due time these methods were tried out in Mississippi and some startling results were obtained particularly in the Jackson area.

Based upon the magnetometer findings the Home Oil Co., a local organization, later financed by the Gulf Refining Co., started the Home Oil Co.'s No. 1 Rainey, in Section 13-5n-1e, and the showings obtained in this test before the hole was lost led to the drilling of the Gulf Refining Co.'s No. 1 Rainey which came in making gas, a small quantity of low grade crude, and large quantities of salt water, and although this well was not completed as the first commercial gas well of the field, it was responsible for the drilling of the so-called discovery well.

The Magnetometer Survey

On Plate 2 is shown the results of a magnetometer survey of the Jackson area made immediately after the Gulf's No. 1 Rainey was started. The writer of this article was called upon to make several small tract surveys in the vicinity of Jackson with the view of determining favorable drilling locations in what was then rank wildcat territory. For this reason the survey shows that the readings are more or less grouped in small areas. Because of the nature in which the entire survey was assembled these readings were made with extreme care as to the accuracy and were always tied in to one common reference base.

Usually a magnetometer survey for general information would have the stations more uniformly distributed through-

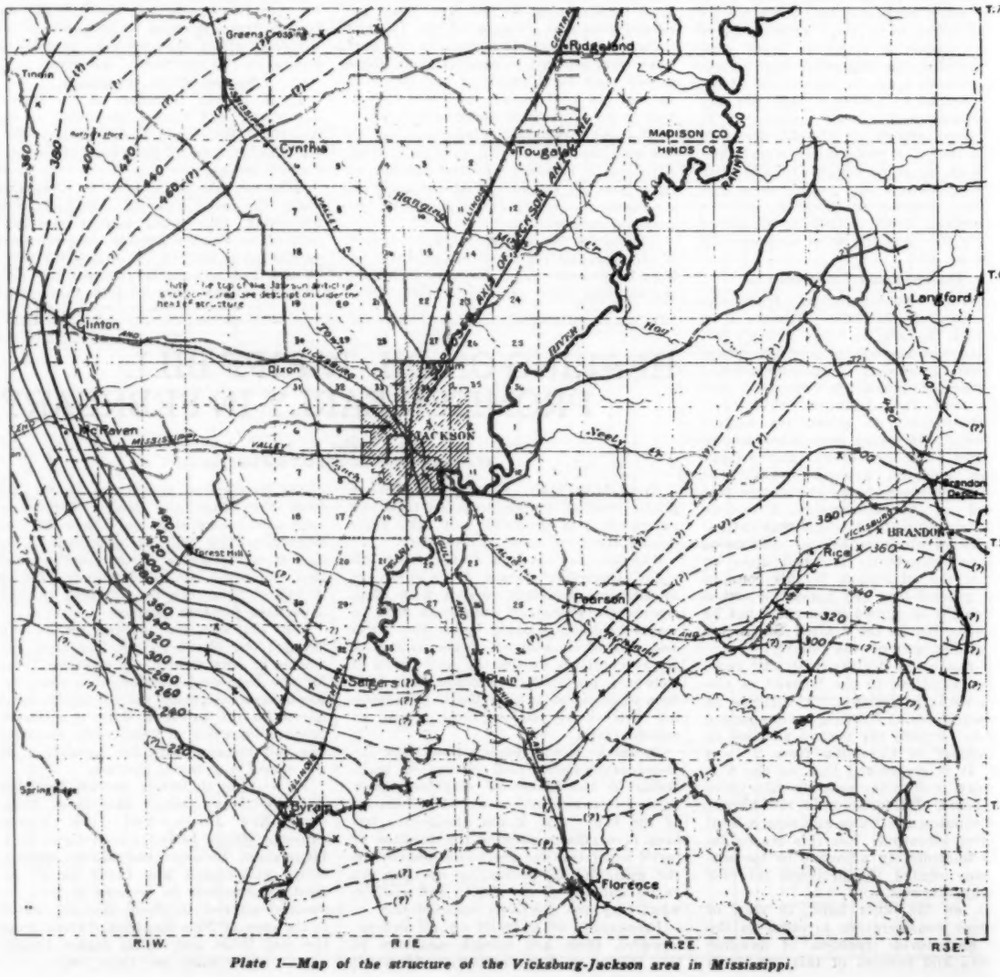

Plate 1—Map of the structure of the Vicksburg-Jackson area in Mississippi.

out the area and would be contoured on a 25 gamma or 50 gamma interval. For this particular map the coutour interval was chosen as 100 gamma in order that the plate would not be too obscured with crowded contour lines. The accuracy of the readings on which this map is based was, however, such that the original reports for the various surveys were contoured on the small interval of 10 gamma. In this way several details were disclosed which otherwise would have been overlooked.

The general shape, as can be seen from Plate 2 is of a circular domelike structure, with the highest part covering parts of Sections 11, 12, 13 and 14-5n-1e.

Due to the presence of the electrical traction system in use in the city, together with interference from water lines, gas lines, steel buildings, railroad lines, etc., traversing throughout the city limits it was impossible to obtain readings within the city, except in a few remote places.

The general regularity of the contours is somewhat disturbed directly north of the peak of the magnetometer structure. Whether this disturbance could be more clearly defined were it not for the interference mentioned above is difficult to say.

Immediately following the bringing in of No. 1 Mayes and No. 1 Mendoza several small companies were organized to drill for gas or oil. One of these, the Pearl River Oil & Gas Co. engaged the writer to make a survey in the vicinity of Section 12-5n-1e. A small reversal was indicated in this section as is evidenced by the increase from 717 gamma in the NE cor., Section 12 to 890 gamma directly opposite the location chosen by the above company for its No. 1 Littlefield. From this value of 890 the relative intensity dropped to 863 gamma at a point near the center of the southwest quarter of the same Section 12. When these readings together with others were contoured on a large scale map there appeared a small closed magnetic high near the center of the section. Based on these findings the well was drilled and when completed was one of the largest producers of the field, and incidently became the discovery well for this area of large gas wells.

From all appearances the structure outlined by the magnetometer on Plate 2 is that of a buried volcano or other igneous plug. When superimposed upon the surface structure map outlined by Hopkins and reproduced on Plate 1 it is obvious that the huge buried uplifted mass is responsible for the semicircular shape assumed by the surface structure.

After dropping rapidly from above 800 gamma to the 500-gamma contour the decrease in relative vertical intensity becomes more gradual on the east flank. The significance of this as well as other minor irregularities in the shape of the contours can be better appreciated after studying the subsurface map of the Jackson structure shown on Plate 3.

Whereas the surface structure is not closed on the north the magnetic survey indicates that the buried uplift has a definite and pronounced north closure.

Influence of the Jackson structure upon the vertical component of the earth's magnetic intensity can be observed with the magnetometer for a distance of 8 to 10 miles from Jackson in nearly all directions, the increase in readings becoming more and more pronounced as the city of Jackson is approached.

Subsurface Structure Map

Through the courtesy of Robert L. Steffy, Special Scout Service, Jackson, Miss., the writer was able to obtain complete geological information and data pertaining to the wells drilled in the Jackson area. Based upon this information the map shown on Plate 4 was completed showing the subsurface structure as represented by the top of the chalk.

Over 110 well logs were made use of to obtain the control points needed to contour the map. The results indicate that the structure is quite well defined on the west, south and northwest.

The contour interval was chosen as 20 feet with the top of the chalk as the marker. The salient features of the map are the U-shaped structure in the north and the elliptical shaped structure to the south.

What appears to be a twin high occurring in Section 8-5n-2e is not definitely defined. Section 12-5n-1e shows the area of big producers in Rankin County. Section 34-6n-1e shows the area of big producers in Hinds County.

At present there have been completed 66 producers with an estimated open flow of 2,000,000,000 cubic feet per day. Several wells on the edges of the structure are making considerable salt water and will shortly be of no commercial value. The wells located favorably on the structure are, however, holding up in excellent condition with scarcely any drop in pressure.

If the 2,200-foot contour line is taken as the limit of the area that will be in the commercial production it has been

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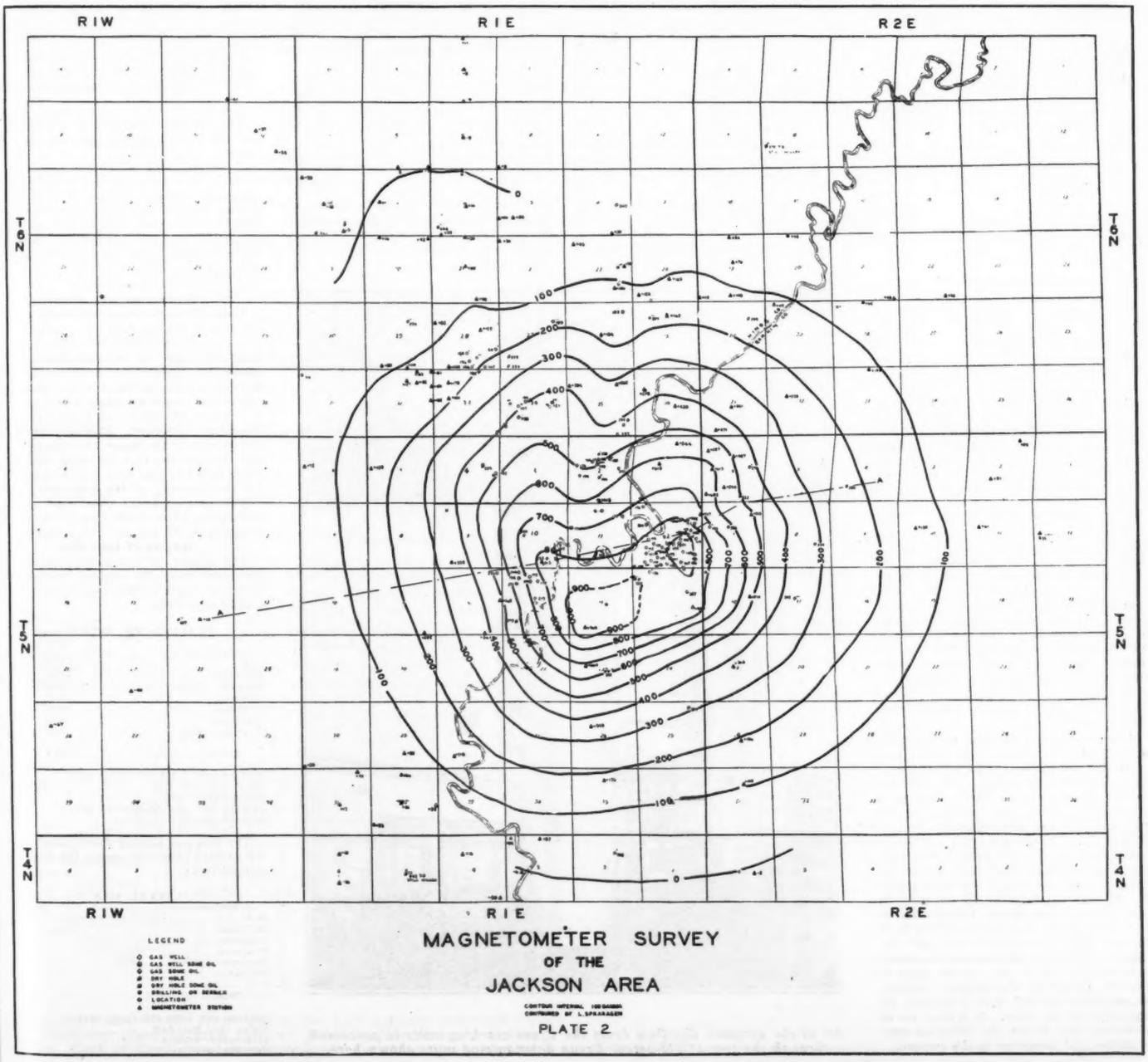


Magnolia Petroleum Company Completes Units to Recover All Light Oil Fractions

* * * * * * *

By W. T. Ziegenhain

As a result of correlating the operation of the new debutanizing units, the new stabilizing units and modifying the vapor recovery system, the Magnolia Petroleum Co. is now recovering approximately 600 cars of grade 30-70 natural gasoline per month at its plant in Beaumont, Tex. A summary of tests on a typical sample of this product is included below:

Gravity	89.0
Reid vapor pressure at 100° F., lbs.	29.0
Octane number	74
Molecular weight	73.74

A.S.T.M. Distillation

	°F.
Initial boiling point	58
Pct.	
10	70
20	77
30	83
40	90
50	97
60	110
70	122
80	140
90	180
Endpoint	284
Recovery	90%

A fractional analysis of this gasoline will approximate the following:

	Vol. pct.
Propane	.11
Butanes	32.94
Pentanes	40.07
Hexanes plus	26.88
Total	100.00

This material is the product of a composite of the cracked gases from the Cross cracking stills, the coke stills, the overhead from the pressure distillate debutanizers, and the vapors taken into the general plant gathering system which extends to the topping units.

Debutanizing Units

Debutanizing the Cross pressure distillate is accomplished with two Braun units. These operate independently but have been located side by side to facilitate a centralized control. The operation of two units makes it possible to process simultaneously, pressure naphthas of different qualities. It has been found advantageous to operate two separate units in order to process pressure naphthas yielding gasolines of different octane ratings in order to meet the varied demand for motor fuels of specific anti-knock values.

The operation of the debutanizing units is conventional. Each receives its heat from the cracked tar which is pumped from the Cross pressure stills and circulated through the reboilers. After it is circulated through the reboilers at the still of the absorption plant the tar is returned to the pressure still site to be cooled and sent to storage. The flow chart which is included here shows the outlay of the two units. By referring to it, the raw pressure distillate may be seen entering the system through the 8-inch lines in the extreme lower left hand corner. From these feed lines, the distillate is picked up by separate pumps and is charged to one or both of the units as desired. Except for the common tar lines, the operation of each unit is entirely independent of the other. A typical set of operating data shows the following temperatures and pressures in the system:

* * * *

	Temp. °F.	Pressure lbs. gauge
Debutanizer feed	306-309	81-82
Gas leaving accumulator	94-96	81-82
Reboiler	368-382	
Top of tower	180	81

The gas leaving the debutanizer then goes to the vapor recovery plant for further processing while the bottoms are run to distillate storage to be treated and rerun.

These bottoms are free of propane and the butane volume is less than 1 per cent.

As an example of the quality of the pressure distillate processed the following fractional analysis is given on a drip sample collected during a 24-hour test run:

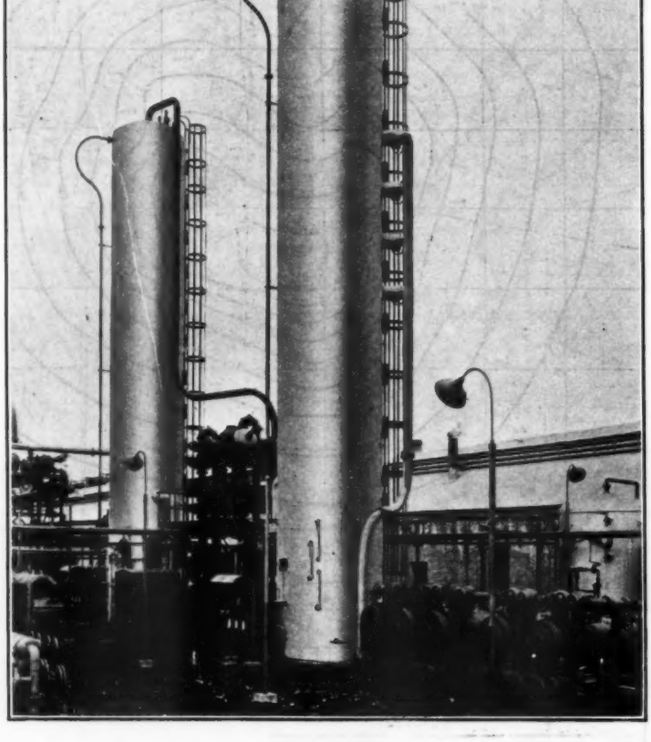
	Feed vol. pct.
Methane	.05
Ethane	.65
Propanes	2.24
Butanes	6.58
Pentanes	8.32
Hexanes plus	82.16
Total	100.00

The debutanized distillate shows the following results on a fractional analysis of the drip sample collected while the above feed was being processed:

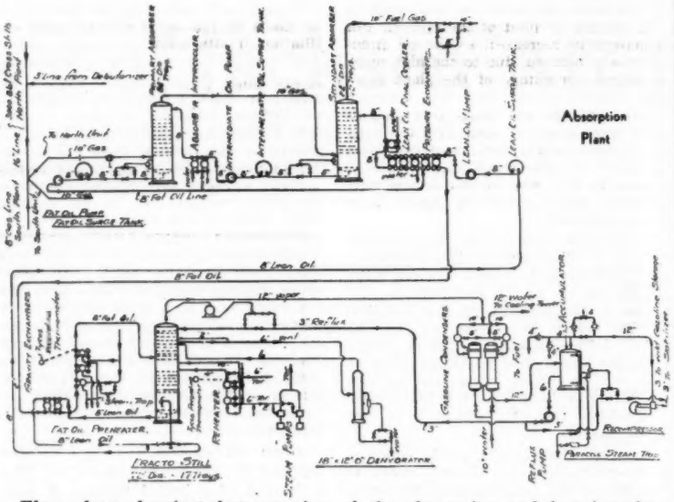
	Bottoms vol. pct.
Butanes	.76
Pentanes	4.91
Hexanes plus	94.33
Total	100.00

The fractional analysis of the gas leaving the system during this time appears below:

	Overhead vol. pct.
Methane	.29
Ethane	4.19
Propanes	14.69
Butanes	39.46
Pentanes	26.30
Hexanes plus	15.08
Total	100.00



All of the pressure distillate from the Cross cracking units is processed through the two 14,000-barrel Braun debutanizing units shown here.



Flow chart showing the operation of the absorption and fractionating units in the vapor recovery system. There are two such units operating in parallel to process all of the gas from the Cross pressure stills, coke stills, topping plant and debutanizers.

* * * * * * * *

Vapor Recovery Plant

Gases enter the vapor recovery system from four principal sources, namely the Cross cracking stills, coke stills, the topping units and the pressure distillate debutanizer. These enter a common header and then pass to one or the other of two vapor recovery units, first, through a primary absorber and then through a secondary absorber. Countercurrent to the gas flow, the same absorption oil is run through the two absorbers and after being enriched goes to a conventional still for the recovery of the gasoline.

The accompanying flow chart of the absorption plant more clearly shows the progress of the gas as it is processed.

Quality of Inlet Gas

The quality of the gases coming into the plant from the various sources will show an approximate composition when mixed, as follows:

ANALYSIS OF INLET GAS

Constituent—	Mol. pct.	Gals. per day
H_2S	2.18	.....
Methane	41.62	.....
Ethane	20.91	.....
Propane	19.72	.....
Butanes	9.05	44,755
Pentanes	4.43	25,558
Hexanes plus	2.09	14,475
Total	100.0	84,788

Gallons per 1,000,000 cubic feet	5,401
Cubic feet per day	15,698,620
Molecular weight	32.67
Gallons per day iso-butane plus	84,788
Specific gravity	1.104

The fuel gas leaving the recovery plant for general plant use shows the following composition:

FUEL GAS

Constituent—	Mol. pct.
H_2S	2.29
Methane	45.19
Ethanes	23.26
Propanes	23.20
Butanes	5.83
Pentanes	.23
Total	100.00

Gallons per 1,000,000 cubic feet	1,791
Cubic feet per day	14,293,776
Molecular weight	29.21
Specific gravity	.987

The butane content of the fuel gas can be materially decreased, as the oil circulation was reduced, due to the high overall butane percentage of the plant gasolines.

The unstabilized gasoline recovered from the system is referred to in the flow chart as wild gasoline and this product goes to the stabilizing unit for further processing. The quality of a typical sample of this material is shown by a fractional analysis below:

WILD GASOLINE

Constituent—	Vol. pct.
Ethane	1.83
Propane	12.57
Butanes	32.75
Pentanes	29.98
Hexanes plus	22.87
Total	100.00

Operating Conditions in Absorption Plant

Reference to the flow chart included here is helpful in outlining the condition under which the absorbers and fractionators are operated. In general, the method of operation is conventional, the absorbers being carried at 30 pounds. Temperatures and pressures shown at the various parts of the equipment will show the following as normal operating conditions:

	Temp. °F.	Pressure lbs. gauge
Inlet gas	99-103	32
Primary absorber	108-113	30
Intermediate oil	90-95	
Secondary absorber	101-106	29
Lean oil	85-95	
Still bottoms	292-330	31.5-33
Still top	190	

Steam Stills

The stills are of the conventional type for absorption plants. At this point it might be of interest to consider the method of processing the uncondensed vapors from the steam still accumulators. The gas from the accumulators is discharged into recompressors which compress the gas from 25 pounds to 200 pounds. The hot gases are discharged directly into the stabilizers where fractionation of these vapors takes place.

Absorption Oil Used

In the operation of the absorption plant, a relatively light oil is used as the absorbing medium. Tests on a sample of the fresh oil are shown here:

CHARACTERISTICS OF ABSORPTION OIL

Gravity	41.6
Flash, deg. F.	145
Fire, deg. F.	165
Color—N.P.A.	1½
Molecular weight	169.0
Intial boiling point, deg. F.	344

Pct.	°F.
10	385
20	396
30	404
40	411
50	418
60	423
70	428
80	434
90	444
Endpoint, deg. F.	480
Recovery, per cent	98

A sample of the lean oil coming from the still shows a complete separation and for comparison, the percentage of light fractions on this oil is shown in the distillation results below:

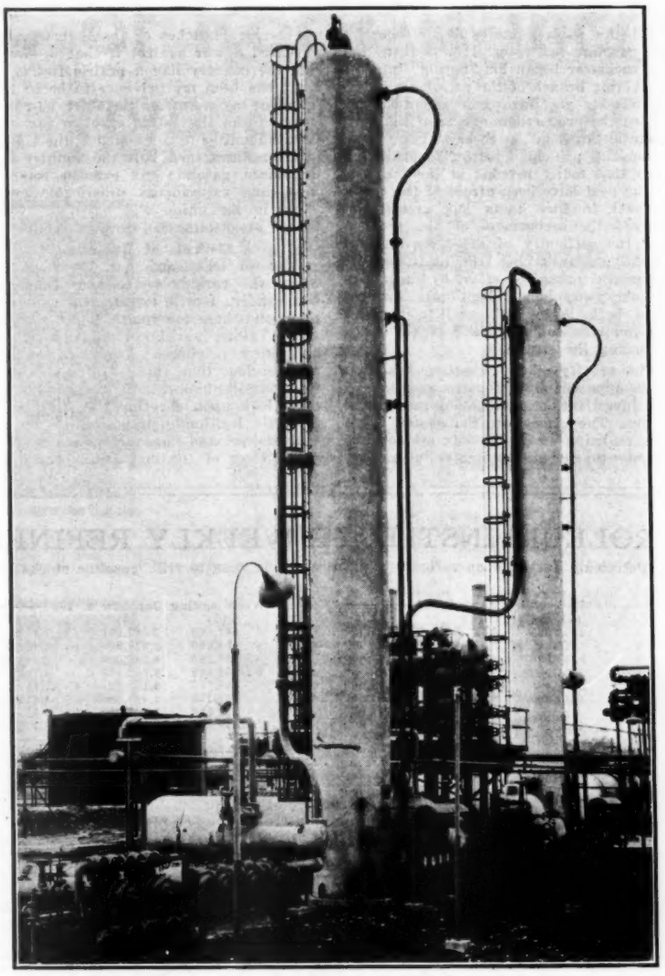
	°F.
Initial boiling point	130
1 per cent	350
2 per cent	400
3 per cent	410

Stabilizing Units

Stabilizing the light gasoline fractions as they are produced in the absorption plant is carried out in two very compact Braun units operating independently. The operation of two units instead of one large one, permits the same flexibility in processing as the two debutanizing units previously mentioned.

By referring to the flow chart of the stabilizing units included here, the oil flow may be seen to be very similar to that of the debutanizers. The raw gasoline is brought to the stabilizers in two lines and may be pumped to either or both units depending upon needs. The subsequent processing of the oil is most clearly shown in the accompanying chart. The more important data, with respect to typical operating temperatures and pressures are given below:

	Temp. °F.	Pressure lbs. gauge
Stabilizer feed	206-211	
Stabilizer gas	98-104	168-170
Stabilizer reboiler	230	
Stabilizer top	124-130	170



General view of the two 200,000-gallon Braun stabilizing units.

Because of the location of the plant on the Gulf Coast there exists the problem of supplying an adequate volume of cold water for the condensers and especially for the stabilizing unit. Under ordinary conditions the fresh water supply is cool enough to carry on the unit's operations but during the summer months and during those periods when the throughput is maintained at a maximum, it has been found more economical and practicable to cool the water by use of a tower.

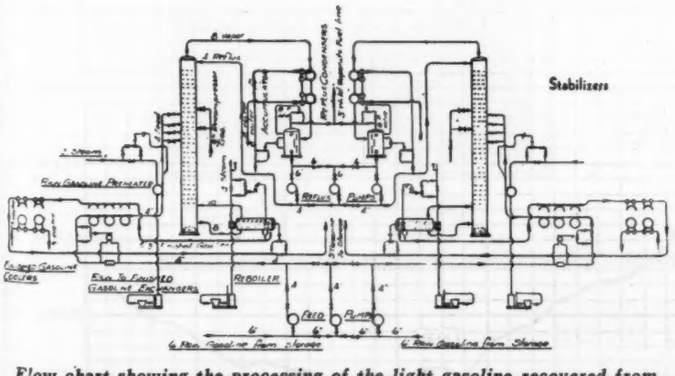
In the summer it is difficult to get raw water much below 90° F. in temperature and by running it over the tower the temperature is reduced about 8 degrees so the highest temperature on the water will not exceed 82 degrees. This rather small difference in temperature, however, is enough to make a material improvement in the degree of recovery and permits a much greater flexibility in the operation of the unit.

The tower is of conventional Braun design and has a capacity of 6,000 gallons per minute.

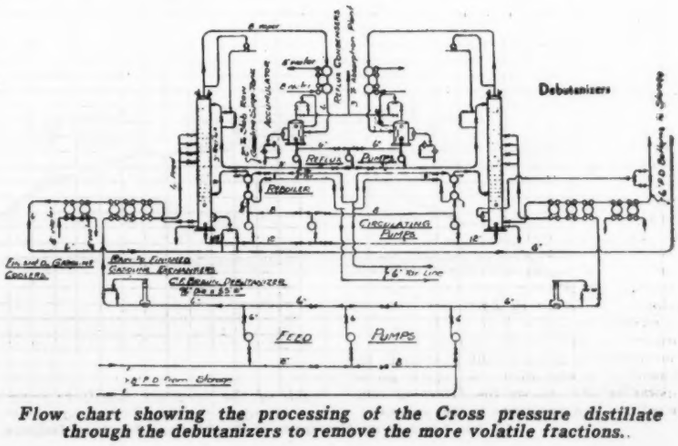
The plant also includes two 20,000-bbl. Horton spheres. These supply storage for the light gasoline recovered from the stabilizers. They operate under sufficient pressure to hold evaporation losses on the stabilized gasoline to a very low figure.

Blend to Vapor Pressure

An accounting of all the gas and pressure distillate entering the absorption units and the vapor recovery unit and the volume of debutanized pressure distillate, stabilized light gasoline and fuel gas recovered shows that plant losses have been reduced materially. At the same time enough of the light fractions are recovered and blended back into the finished motor fuel to furnish a greater proportion of light ends, which in turn promotes easier starting and supplies that "volatility" now so generally recognized as one of the most important characteristics of a gasoline, consistent with a given Reid vapor pressure. All control for the operation of the three units briefly described is automatic where possible, the method of control at the different points being designated on the respective flow charts included here.



Flow chart showing the processing of the light gasoline recovered from the recovery plant through the two 200,000-gallon Braun stabilizing units. Each of these operates independently but the controls have been centralized.



Flow chart showing the processing of the Cross pressure distillate through the debutanizers to remove the more volatile fractions.

The Gasoline Tax Evasion Racket

Chairman of Illinois Committee Addresses Oklahoma Petroleum Marketers Association Exposing Menace to Industry

By F. V. Martinek

Assistant Vice President, Standard Oil Co. (Indiana), Chairman of the Illinois Gasoline Tax Evasion Committee*.

Never in the history of business has there been a greater challenge of legitimate industry than that offered by the gasoline tax evader.

The gasoline tax originated in Oregon in 1919 as a penny levy. In 1929 it had been adopted in every state of the union including the District of Columbia, and reached a maximum of 7 cents per gallon in one state with a nationwide average of 4.09 cents per gallon. The gasoline tax in the United States now represents 33⅓ to 70 per cent of the retail gasoline price, and collection by states has reached the astounding proportions of $500,000,000 per year. The 11-year total runs into billions of dollars and has been used primarily for the building of roads and their maintenance. However, recently there have been diversions for other purposes.

Evasion Becomes Serious

Our problems did not become serious until the various states began boosting the gasoline tax rates. It was then that the racketeer began his "boring" into the marketing branch of the petroleum industry. Today gasoline tax evasion has assumed the proportions of one of the most gigantic "rackets" in the history of business. The principal reason for this has been that many persons in the industry in the past have been afraid of the truth. Refusal to face facts has greatly increased the seriousness of the problem and the difficulty of attacking it. But recently, after having been confronted by a gigantic, organized effort by racketeers to take away honest legitimate business from both large and small companies, the industry has awakened to the truth regarding the situation.

The gravity of the situation has been made apparent by intensive and aggressive investigations throughout the United States. The American Petroleum Institute, realizing what a menace evasion has become to the producing, refining, and marketing branches of the industry, has declared a war against it that is sweeping the country like a prairie fire.

It has been my privilege to be in this gasoline tax war from the start, as chairman of the first state gasoline tax evasion committee to be created in the United States. Since then half the country has organized gasoline tax evasion committees, and as soon as practicable every state in the union will have its "vigilantes" or gasoline tax evasion committee.

Methods of Evasion

You in Oklahoma have heard much about the various methods used by the tax evader. I will merely run over the main ones here for you:

1. Taking advantage of agricultural exemption privileges. There is nothing more serious than this as its tendency is to demoralize honest individuals and make them look upon cheating the state as a perfectly legitimate proposition.
2. Direct and flagrant evasion by representatives of the marketing branch of the industry who make absolutely no pretense of paying the tax.
3. Partial payment of the tax.
4. Blending of inferior products, collection of tax on same, payment of part to the state, and pocketing of the rest.

Status as a "Racket"

In my opinion the liquor racket, proportionately speaking, is less attractive to the racketeer than gasoline bootlegging. Liquor is contraband and there are at least some regulatory measures by the Government, but in the case of gasoline, trade in this commodity is legitimate and tankers, tank cars, and trucks can transport it without any interference. The gasoline bootlegger faces few of the hazards encountered by the liquor bootlegger and the penalties he must pay for infringement of the laws are relatively slight. Is it any wonder that some of our best racketeer minds are today devoting their energies to this new racket?

In our study of this problem we have

(Continued on Page 86)

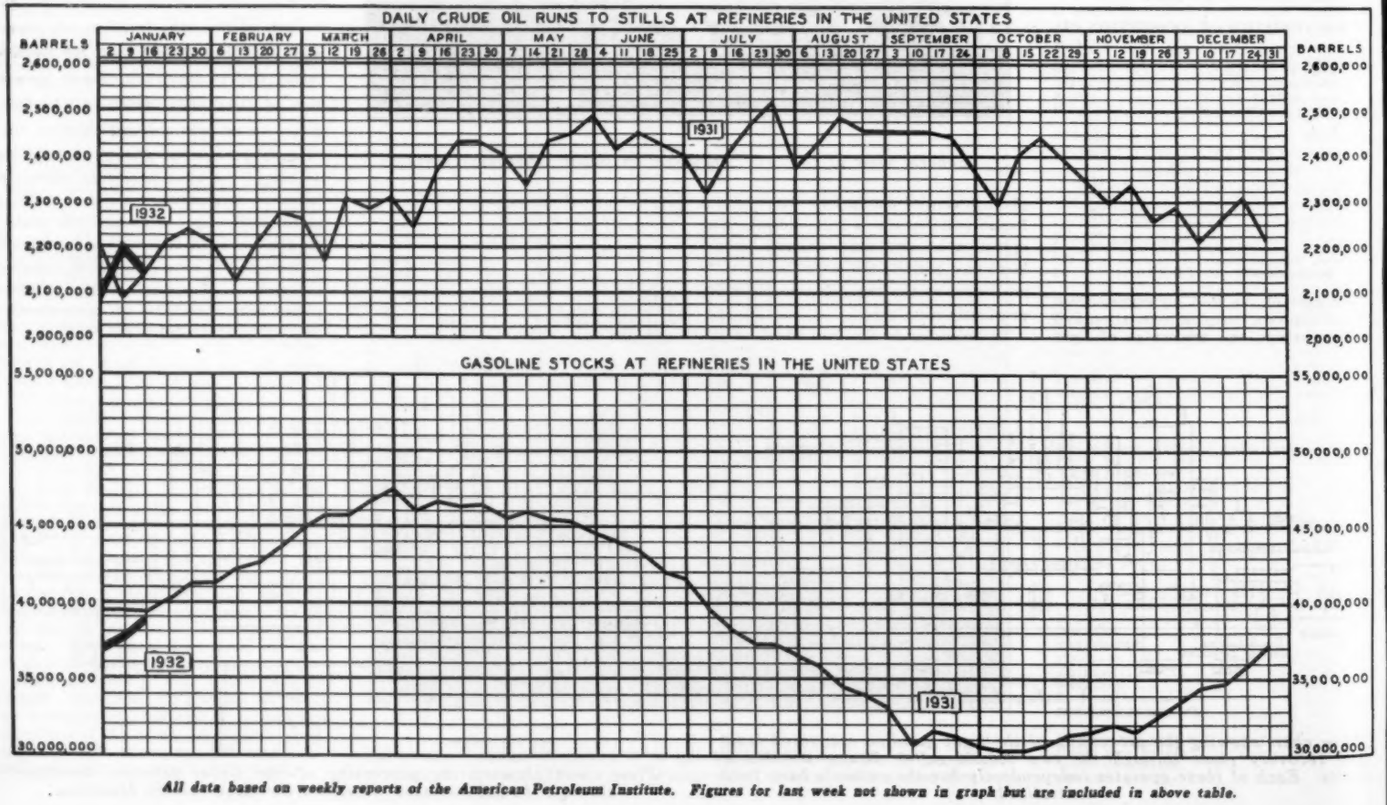
*Before Oklahoma Petroleum Marketers Association, Oklahoma City, Okla., January 21.

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to still, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending January 16.

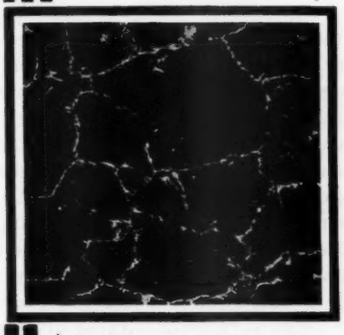
	Week ended January 16				Week ending January 9, 1932				Week ending January 17, 1931			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100 0	409,900	4,937,000	7,684,000	100.0	443,100	4,861,000	7,978,000	100.0	466,100	6,177,000	8,553,000
Appalachian	91 8	84,400	1,418,000	1,450,000	91.8	81,000	1,331,000	1,495,000	93.8	85,100	1,131,000	1,053,000
Indiana, Illinois, Kentucky	98 9	264,400	4,789,000	5,235,000	98.9	258,200	4,686,000	5,348,000	97.5	249,100	4,545,000	3,215,000
Oklahoma, Kansas, Missouri	89 6	235,400	3,309,000	3,960,000	89.6	232,400	3,262,000	4,108,000	89.5	223,300	2,704,000	3,856,000
Texas	91 3	508,600	8,509,000	10,946,000	91.3	506,700	8,193,000	11,233,000	91.9	542,200	7,152,000	10,518,000
Louisiana and Arkansas	98.9	146,400	1,261,000	4,189,000	98.9	163,700	1,428,000	4,315,000	98.3	136,600	1,603,000	2,334,000
Rocky Mountain	89.4	43,200	1,854,000	748,000	89.4	32,200	1,767,000	723,000	93.1	40,600	1,652,000	978,000
California	97.1	432,600	13,776,000	96,118,000	97.1	449,300	13,578,000	96,379,000	98.8	475,300	15,420,000	103,221,000
Total United States	95 2	2,124,900	39,853,000	130,330,000	95.2	2,165,600	39,106,000	131,579,000	95.7	2,218,300	40,384,000	133,728,000
Texas Gulf Coast	99.8	403,600	6,754,000	8,204,000	99.8	354,100	6,454,000	8,441,000	100.0	418,700	5,819,000	8,024,000
Louisiana Gulf Coast	100.0	95,000	1,137,000	3,306,000	100.0	105,400	1,304,000	3,470,000	100 0	95,100	1,353,000	1,369,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) gas and fuel oil stocks

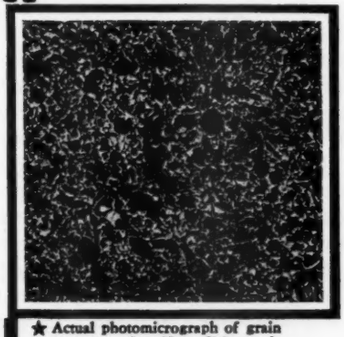


All data based on weekly reports of the American Petroleum Institute. Figures for last week not shown in graph but are included in above table.

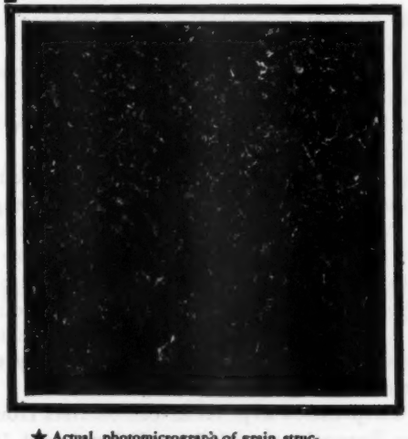
LIFE of Rods is increased by TRIPLE TREATMENT



★ Actual photomicrograph of grain structure after forging of box and pin.



★ Actual photomicrograph of grain structure after *Normalizing*, only the *first step* in "Oilwell's" *Triple Treatment.*



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★ Photographed under microscope; magnified 100 times.

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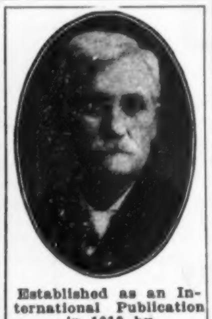
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A SELLING TALK

If the selling energy in the oil business now spent in getting sales away from the other fellow were exerted in bringing in new customers the oil industry would be in a whole lot better condition.

The automobile spoiled us as salesmen. The pioneer oil men who developed and carried the kerosene lamp to the four quarters of the globe to make a market for their product were real salesmen. But it was different with gasoline.

The automobile sold itself. To see it was to wish for possession and it was useless without gasoline. The oil industry was kept busy supplying an unceasing and increasing demand until recently, through a combination of circumstances, approach to a saturation point and world wide depression, together with a flood of oil, supply has vastly exceeded demand.

Once more there is a call for real salesmanship to go out and get new customers but in the long years of supplying without selling the initiative of the pioneers seems to have been lost.

There is a world of difference between winning customers from a competitor and selling products to a new user. The one does not enlarge the business of the industry a gallon; the other may add millions of barrels to the output.

Today what the industry needs is new markets or expansion of the existing markets, not simply a reshuffling of the business that is already being done.

With the prices of petroleum products where they are today there never was such an opportunity to interest new users. Uses that might have seemed prohibitively high in normal times are now so cheap as to be generally available.

The spreading network of natural gas has cut heavily into the consumption of furnace oil and fuel oil and the disposition seems to be to take it lying down instead of fighting for business that can be offered more cheaply than ever before.

The demand for furnace and other oils in the heating of homes was nine times as large in 1930 as it was in 1923. The 1930 demand for commercial and domestic heating was practically two-thirds as large as the use as fuel in general manufacturing.

The demand for oils for commercial heating is recognized as an important outlet but it totaled only a little over 17,000,000 barrels compared to 25,000,000 barrels for domestic heating.

Consumption in commercial heating has shown a comparatively slow growth whereas the consumption in domestic heating has jumped from less than 9,000,000 barrels to over 25,000,000 barrels within five years.

The number of oil burners in domestic heating has increased from 12,500 in 1921 to 774,500 today.

This remarkable growth has been made without practically any stimulation from the oil industry and indeed in the earlier years in the face of indifference amounting almost to obstruction because it was believed that oil was too valuable to compete with coal.

Since then oil has at times been so cheap it could compete with anything.

With the industry drowning in a sea of oil why not take advantage of this remarkably expanding interest in home heating by oil and get out after the business as the pioneers did with their lamp oil?

We are, unfortunately, in a position where we can sell oil for domestic heating at prices to compete with gas and coal. Hitherto the selling argument for oil heating was its convenience and advantages which made it preferable even at a higher cost than coal.

Now we can compete on a price basis as well, adding cheapness to those other advantages and what are we doing about it?

We ought to take advantage of the opportunity to demonstrate to prospective buyers the superiorities of oil heating at the moment when we can do so without the handicap of a price differential.

There is abundant reason to believe that a properly directed effort along this line would interest and convince a large market for oil heating that could be retained because of its advantages even if the cost was above the competition of coal.

Development of a market for additional millions of barrels of furnace oils would go a long way towards steadying the entire industry.

We have more oil than we know what to do with. The surplus is beating down the price of petroleum products below all reason. It is no longer a question of using oil for an inferior purpose, as used to be argued. It is now a question of all oil being sacrificed, not fuel oil alone, but all products, including gasoline itself.

In brief, let us take this period of record low prices for refined products which enables us to meet almost any competition on a cost basis and when we return to normal conditions we can hold a large proportion of this business on the superiority of our products.

The salesmanship spent in trying to wean customers from competitors might be employed more profitably in winning new consumers who would help reduce our surplus and stabilize the whole business.

Motor car registrations in 1931 show a decrease but there was an increase in both trucks and buses.

Isn't there a thought here for oil industry salesmanship? A little special attention centered upon co-operation with the trucking industry might be profitable. Is the oil industry giving the trucks a reciprocal share of its business?

There are thousands upon thousands of little enterprises using power which might just as well be using gasoline engines. Has the oil industry ever made a systematic effort to extend its market in that direction or is it waiting for the engine industry to bring in the customers like the automotive industry did?

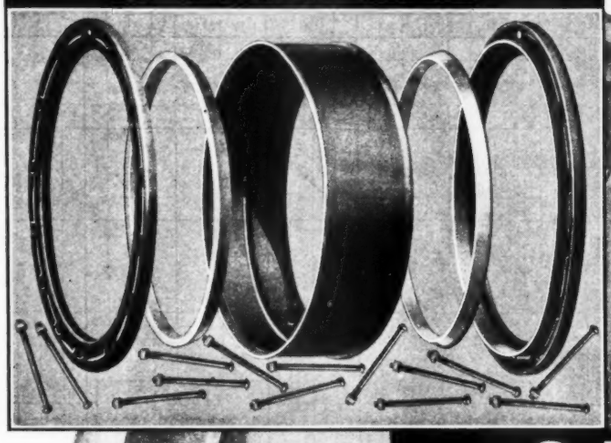
This is the time of year when the gasoline industry should be planning its sales campaign for next summer. Is it to be simply another cat and dog fight for the business already existing or can something be done to increase consumption?

Last year's depression kept American tourists from going abroad and this year Europe's unsettled condition is not likely to be attractive. Why should not the gasoline industry take a leaf out of the nurseryman's book and send out touring at home literature at the same time as the spring gardening catalogs?

If it is left until late spring or early summer most people will have made their plans. Attractive touring inducements sent at the right time will lodge a suggestion that will likely be remembered.

The industry's big selling job this year will be to increase its business, not simply to swap what business it already has.

SIMPLE



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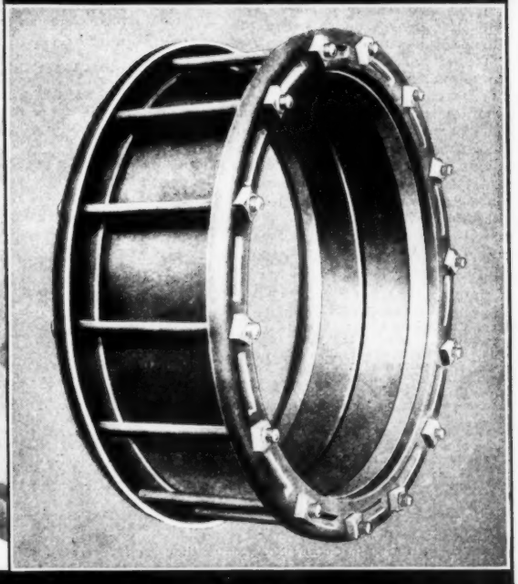

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DRESSER COUPLINGS DOMINATE!

Correlate Octane Number and Vapor Pressures of Natural Gasolines

* * * * * *

By R. C. Alden
Phillips Petroleum Co.

By chilling the fuel systems of knock testing engines it is possible to determine the antiknock ratings of gasolines of comparatively high vapor pressure. A limited number of such determinations have been made on natural gasoline and the results have been correlated with other characteristics of the gasoline. The best relationship has proven to be with Reid vapor pressure.

Figure 1 summarizes the data available. Most of the samples tested originated in the Burbank district. Of the 98 samples of natural gasoline shown in Figure 1, 75 were from the Burbank district. Of these 75 samples, 5 were in the 26-pound grades, 3 in the 22-pound grades, 5 in the 18-pound grades and 15 in the 14-pound grades of the new grading system. The remaining 47 samples were below 10 pounds Reid vapor pressure.

The solid curve represents the average of the points of the Burbank samples. The dotted projection of the curve has been placed above the actual curve because the general trend indicates such a curvature. Deviation from the curve in the case of individual samples can be attributed to (a) variations in operations due to wide variety of products manufactured, (b) errors inherent in antiknock determinations, (c) effect of varying proportions and characteristics of small mineral seal oil inclusions, (d) seasonal variations in base material, (e) errors in testing due to vapor locking of test unit.

Twenty-two samples, from 13 other sources, are also shown in Figure 1. With few exceptions these other natural gasolines follow the trend established by the Burbank samples. Four gasolines fall above the trend and one below. The sample from Norphlet, Arkansas, has an exceptionally high octane number. The sample from Smackover, Arkansas, also had a rather high octane number. One of the two McCamey samples had a relatively high octane number, while one of the five Texas Panhandle samples had an octane number slightly higher than the trend. The sample from El Dorado, Arkansas, had an unaccountably low octane number. This particular sample had an unusually high vapor pressure in comparison with its other volatility characteristics. It is well known that some of the Arkansas crude oils have high antiknock values and evidently the heavy ends transmit this property to the commercial natural gasoline.

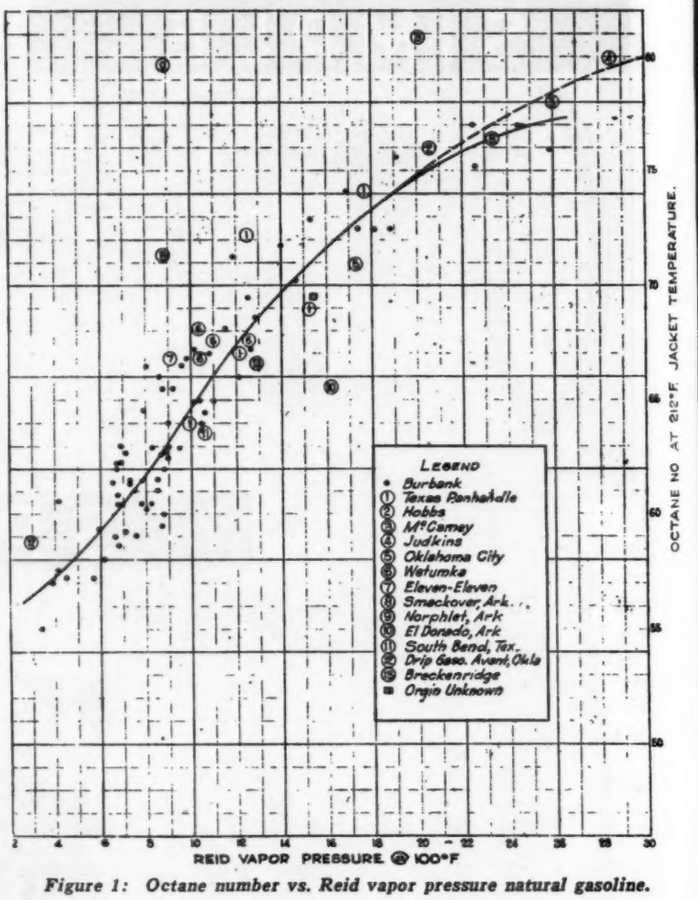

Figure 1: Octane number vs. Reid vapor pressure natural gasoline.

* * * * * * * * * *

Follow General Trend

Accordingly the octane number of natural gasoline at the several vapor pressure limits of the new grading system can be safely assumed to conform to the following table:

TABLE 1—OCTANE NUMBER OF NATURAL GASOLINE AT SEVERAL REID VAPOR PRESSURE LIMITS.

Reid vapor pressure—	Octane number
30	80.0
26	78.4
22	76.2
18	73.3
14	69.6
10	64.6

In addition to tests on commercial samples of natural gasolines, antiknock ratings have been determined for the pure hydrocarbons, propane, iso-butane, normal butane, iso-pentane and normal pentane. The octane numbers thus determined are shown in Table 2.

TABLE 2—OCTANE NUMBERS OF NATURAL GASOLINE HYDROCARBONS LIGHTER THAN HEXANE.

Hydrocarbon—	Octane number
Propane	Noticeable detonation at 10 to 1 compression ratio
Iso-butane	100
Normal butane	92
Iso-pentane	91
Normal pentane	64

The use of data in Table 2 in conjunction with appropriate fractional analyses and antiknock tests on residual portions of natural gasoline makes it possible to calculate the approximate octane number of natural gasolines without introducing the complication of vapor lock in the test unit.

Incidentally the data of Table 2 point to the desirability of pentane fractions high in iso-pentane content in blending ethyl base gasolines. Such a product would have a Reid vapor pressure of 19 pounds, an octane number of at least 80, a gravity of about 95° A.P.I., and an endpoint of 95° F. A normal natural gasoline of 19 pounds vapor pressure would have an octane number of 74, a gravity of about 84° A.P.I. and an endpoint of about 340° F.

Besides the advantage of comparatively high octane number, natural gasoline has two other definite advantages from

(Continued on Page 86)

TABLE 3—CHARACTERISTICS OF GASOLINES IN PLATE 2

Description—	Curve No.	First drop	Per cent evaporated— 10	50	90	End-point	°A.P.I.	R.V.P.	Octane No. 0 cc. $PbEt_4$	Octane No. 2 cc. $PbEt_4$	Increase
Natural gasoline, special cut (No. 5)	7	108	118	128	155	266	82.4	9.70	64.1	85.1	20.0
Straightrun, Gulf Coast crude	9	94	131	218	287	330	65.0	9.60	62.1	81.4	19.3
Natural gasoline, 7 pounds R.V.P.	10	108	130	159	234	338	74.7	7.80	60.5	77.7	17.2
Straightrun, Okmulgee crude	5	106	175	286	385	422	57.1	6.35	45.2	61.6	16.4
Straightrun, Pennsylvania*	12	...	...	...	...	...	...	...	50.0	65.3	15.3
Natural gasoline, 13 pounds R.V.P.	11	94	106	138	222	315	80.0	12.70	67.2	82.6	15.4
Straightrun, Kansas crude	1	116	167	275	382	436	58.9	5.90	44.7	59.2	14.5
Cracked gasoline, Okmulgee crude	6	110	158	270	377	425	55.6	5.50	67.0	†81.4	14.4
Straightrun, Texas Panhandle	3	106	152	250	361	408	61.3	7.10	50.0	64.1	14.1
Cracked gasoline, Kansas crude	2	103	150	275	384	428	57.4	7.50	62.6	74.9	12.3
Natural gasoline, heavy ends	8	232	242	264	340	526	56.0	1.10	41.3	51.8	10.5
Cracked gasoline, Texas Panhandle	4	94	144	277	378	412	58.0	2.45	58.5	69.0	10.5

*Data from Universal Oil Products Research Bulletin of December 16, 1931.
†Estimated by extrapolation of curve.

TABLE 4—EXCEPTIONAL GASOLINES IN PLATE 3

Description—	Identification	First drop	Per cent evaporated— 10	50	90	End-point	°A.P.I.	R.V.P.	Octane No. 212°	Octane No. 350°	Difference
Natural gasoline with drop in Octane No. greater than 5.9	6,158	97	140	194	273	362	64.5	8.9	79.7	73.1	6.6
	6,042	117	134	165	234	325	72.5	7.0	78.2	71.3	6.9
	4,882	114	137	166	226	314	72.6	7.4	62.7	56.7	6.0
"Other" aviation gasoline with Octane No. drop less than 3.3	6,455	112	136	175	234	310	70.3	8.0	60.5	57.6	2.9
	6,456	116	146	179	214	274	69.2	6.4	65.1	62.5	2.6
	6,458	106	135	184	269	352	69.5	7.8	61.1	58.4	2.7
	6,192	108	139	177	231	300	70.7	6.7	59.0	56.0	3.0
	5,892	119	144	179	232	314	66.3	5.8	74.9	72.4	2.5
	5,884	120	150	201	266	344	66.6	6.1	57.4	54.9	2.5
	5,889	116	146	181	221	271	69.3	6.7	74.2	71.7	2.5
	5,384	110	132	181	242	352	70.1	8.1	62.7	60.8	1.9
	5,382	118	156	187	237	338	66.0	5.3	65.0	63.1	1.9
	5,077	108	144	195	255	318	66.9	6.9	88.2	85.1	3.1
	4,465	90	112	248	369	411	59.9	11.5	67.0	64.3	2.7
	4,390	105	165	252	328	361	55.9	5.4	70.1	68.4	1.7
	4,293	100	144	217	271	323	66.2	8.4	57.5	54.9	2.6
	4,295	100	125	170	250	343	72.3	10.1	63.7	60.8	2.9

View of refinery pump house piping insulated with Carey 85% Magnesia pipe coverings.

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Engineers Discuss Oil Field Problems

Many Subjects of Interest to Industry and Manufacturers Feature Meeting of Mid-Continent Section A.S.M.E.

By L. G. E. Bignell
Petroleum Engineering Editor

Members of the Mid-Continent section of the American Society of Mechanical Engineers held a successful meeting in the University Club, Tulsa, January 15. David Trax, Gypsy Oil Co., Tulsa, chairman of the Mid-Continent section, presided over the meeting. The first paper was read by John T. Hayward, Barnsdall Oil Co., Tulsa, and consisted of an abstract from the recently completed report prepared by the A.S.M.E. Research Committee on Rotary Drilling of Oil Wells.

Mr. Hayward's abstract, was of necessity, short and only touched on some of the most important results developed by the test, which was conducted under the direction of Prof. William H. Carson, University of Oklahoma, Norman, Okla., during the summer of 1930 and is the first and only test of this kind upon steam rotary operated rigs. The test of the turbine driven slush pumps was carried on at Perry, Okla.

Among the many interesting facts developed by the test were those of steam consumption for the slush and boiler feed water pumps. The former consumes two-thirds of the total steam used at the location, and the latter one-third as much.

The rotary outfits tested were of the usual type found in the Oklahoma City Field during active drilling operations and no attempt was made to change conditions for the test as it was desired to learn what the equipment was doing under actual field conditions.

Diesel Engines Discussed

Hollis P. Porter, consulting mechanical engineer, Tulsa, presented a paper on the use of the Diesel type internal combustion engines for both drilling and pumping operations in the oil fields. This type of prime mover has been quite generally used in pipe line stations with very good results but their application to other petroleum industry power problems seems to have progressed slowly.

Mr. Porter described the characteristics of the Diesel type engines quite fully and in the discussion that followed it became very evident that there is need for power units of this type in many fields, and especially in the new fields of central west Kansas where gas is not available and where the water is bad. Wells in that area must be pumped or swabbed practically as soon as finished and securing suitable pumping units that will work on the crude oil available has become a problem that many engineers are now facing.

The engineers present seemed to feel that the engine manufacturers can solve their problems and supply suitable engines if they will devote some time to these requirements, and a statement was made that several of the leading manufacturers of this type of equipment have already brought out new units of size and characteristics that should prove suitable for this class of work.

This type of engine will find a place for use where gas is not available on the lease, and where electric power cannot be had readily. From the data available the cost of operation should compare favorably with other prime movers and it seems only necessary to make these Diesel engines in sizes suitable for pumping operations and for the drilling requirements to open a very profitable field for sales.

Belting Practice

H. H. Wright, of the Gypsy Oil Co., Tulsa, read a paper on "Belting Practice in the Oil Industry," in which he discussed formulas for determining the width, weight and ply of belting suitable for oil field uses.

Because of the severe duty imposed upon belts on pumping wells it has been found that most of them are torn up rather than worn out. This is not due to any faulty design or manufacturing practices on the part of the makers of belts but rather to conditions found at the point of installation. Engineers for the oil companies are making very careful studies of those conditions with the hope that many of them can be remedied and thus remove this undue wear on belting and lengthen the life materially.

The use of spliced belting was discussed and one report made that one or two spliced belts had been under service for over 12 months and giving good results. Equipment has been designed to permit making splices in the field and seems to do its job thoroughly.

Rotary Drilling With Motors

H. W. Manley, Barnsdall Oil Co., Tulsa read an extract from the report of the A.S.M.E. subcommittee on electric drilling that brought out many interesting facts. Lacking definite data on time studies of operations on an electric driven rotary rig the A.S.M.E. appointed a committee to gather this type of information and their results are now available in a report that has been published by the society.

Observations were made on about 15 drilling wells in Seminole and 21 wells in Oklahoma City which showed that on the wells in the Seminole Field with an average depth of 3,403 feet the average power cost was .393 cents per foot. The average power cost on 14 wells in the Oklahoma City Field, which were not operating over four months, was found to be .768 cents per foot for an average depth of 6,505 feet.

The discussion that followed revolved

(Continued on Page 67)

OFFICIAL ANNOUNCEMENT MADE OF PRAIRIE-SINCLAIR MERGER

Official announcement of the agreement to merge the Sinclair Consolidated Oil Corp., the Prairie Oil & Gas Co. and the Prairie Pipe Line Co., subject to the approval of the stockholders of the three companies, was made on Wednesday, January 13, by the boards of directors of the companies interested.

The Prairie Oil & Gas Co. and the Prairie Pipe Line Co. are to transfer all their properties, assets, business and good will to Consolidated Oil Corp. (subject to all liabilities of the Prairie companies, which liabilities Consolidated will assume).

A special meeting of the Sinclair stockholders is to be held at the office of the corporation, New York City, on March 1, for the purpose of considering and taking action on the consolidation and related proposals. Meetings of the stockholders of the Prairie companies will be called for the same date. Stockholders entitled to vote at this meeting will be those of record at the close of business January 30, 1932.

It is contemplated that when the board of directors of the new company is organized, the following officials of the new corporation will be elected: H. R. Gallagher, president; H. F. Sinclair, chairman of the executive committee; W. S. Fitzpatrick, vice chairman of the executive committee; and E. W. Sinclair, chairman of the finance committee.

Career of H. R. Gallagher

Herbert R. Gallagher, selected to head the Consolidated Oil Corp., has been senior vice president and executive officer of the Shell companies on the Pacific Coast since its entry into that territory in 1910. More than any one else, he has been responsible for the organization and development which has brought the Shell company to a point where it occupies second position on the Pacific Coast in production, refining and marketing.

Twenty years ago the Shell Oil Co.'s business on the coast was marketing only. But as early as 1913, through the purchase of California Oil Fields, Ltd.—at that time one of the large producing companies in California — the business

(Continued on Page 88)

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Jan. 19. — M. W. Eiser's No. 1 Wells, in Guadalupe County, southeast of Darst Creek, a wildcat, got top of chalk at 3,445 feet, which is 91 feet higher than in Grayburg's No. 1 Wells southeast of it, and expectations are high that it will get production in the Edwards lime.

KANSAS

The Kansas Public Service Commission on Tuesday announced new proration orders effective January 19, to apply in the Voshell and Eastborough Pools. The production in the Voshell Pool in McPherson County was curtailed to 8,179 bbls. per day. The January pipe line nominations of the Skelly Oil Co., Derby Oil Co., Shell Petroleum Corp. and Empire Oil & Refining Co. were 8,700 bbls. per day.

The curtailment in the Eastborough Pool, in Sedgwick County, was 86 per cent of the potential production of 8,500 bbls. a day. The pool was prorated to 7,310 bbls. a day.

Gypsy Oil Co. and others' No. 1 McGill, SW cor. NW, Section 20-19-1w, in the northeast part of the Ritz-Canton Field, filled 2,500 feet with oil from the Viola lime at 3,416-28 feet. The casing was being cemented on top of the Viola lime.

A substantial extension was given the producing area in southwestern Ellsworth County, along the Barton Arch when the

(Continued on Page 81)

High Spots in Field News

NORTH LOUISIANA, ARKANSAS AND MISSISSIPPI

More dry holes than producers found during week despite unusual number of completions in three state area.

SOUTHWEST TEXAS

Oil near top in important wildcat in southwest Kerr County, 75 miles from production. It may open big territory.

CALIFORNIA

California continues to overproduce. Operators, warned position is dangerous, ask higher prices before curtailing.

GULF COAST

New play on east flank of Barbers Hill inside wells under salt overhang. Offsets already being started to Oligocene.

KANSAS

Public Service Commission restricts production in Voshell Pool 17 65-100 per cent and Eastborough Pool is curtailed 14 per cent. Neither had been restricted.

ROCKY MOUNTAIN AREA

New Mexico proration to be extended for year if governor signs. New operation in Greasewood Field, Colorado. Twenty gas wells to be drilled in Cut Bank, Montana.

EAST TEXAS

Rains hinder operations. New locations dropped to 84 and completions to 72. Now 634 operations. First gas well in district estimated from 8,000,000 to 10,000,000 feet.

WEST TEXAS, NORTH TEXAS AND PANHANDLE

New wildcat location in Culberson County. Nine locations made in Wichita area and six in Ranger district. Irion deep test resumes drilling. Another producing area in Palo Pinto County.

OKLAHOMA

Seven locations in Conservation Pool in Pontotoc County, and three locations announced in Oklahoma City Field. Carter well south of St. Louis Pool, Pontotoc County, opens new producing area.

Rains Hinder East Texas Operations

Hold New Locations to 84 and Completions Drop to 72. Now 634 Operations in Field. First Gas Well Completed

By L. E. Bredberg

DALLAS, Tex., Jan. 18.—First reports held up to 84 this week, while completions dropped from 111 last week to 72 this week, heavy rains and high water being the principal factor in retarding all operations in the field, and checking the number of completions. High water was also responsible for some of the purchasing companies shutting down some of their gathering systems. Pump stations and lines are under water, as are all of the main lines, causing danger of breaks in the lines at a time when repair work would be almost impossible.

Many of the producing wells in the field are shut down, water having inundated them. One well was reported covered with 12 feet of water, another with 8 feet of water, and there are many others in danger of having connections broken by floating debris striking against them.

It has been impossible to get trucks into the fields for several weeks, and mule and horse teams cannot get through in many places. Winches have been used in several instances to pull horses and mules out of the mud after they mired down and were unable to get out by themselves.

These conditions have held up pipe line gathering work in the field, wells going several days without connections because crews could not run in gathering lines to hook up the wells. There have been as high as 32 leases having unconnected wells, but these have all received connections by the various purchasing companies. The pipe line companies are co-operating in an effort to keep down the number of unconnected wells, to prevent any distress oil from accumulating and perhaps being thrown on the market breaking the present price of 83 cents. The companies all have more connections than they desire, and do not wish to connect to more wells, but are doing so in an effort to prevent a serious situation.

The Yount Lee Oil Co. was formerly running only 42 bbls. per day from each of its wells in the district because of lack of outlet for its oil, but this has been remedied for the present by another purchaser contracting for an amount sufficient to enable the company to produce its wells at their allowable of 100 bbls. per day.

Oil Into Storage

Much oil has been going to storage in the district, the past week averaging around 21,500 bbls. per day, pipe line companies not running much oil on Sundays. Production for Saturday, January 16, was 345,659 bbls. Production for January 15 was 364,134 bbls., and pipe line runs for that day were only 326,686 bbls., a difference of 35,448 bbls. that day, which oil had to be run to storage. Production for Sunday, January 17, was 83,020 bbls. from 842 wells, 37 wells were shut in for physical reasons and 2,791 were shut in voluntarily. There were 3,854 wells completed up to 7 a.m., January 18. Pipe line runs for Sunday were 169,957 bbls., or only half of the average daily runs, and this amount includes runs made by Shell Pipe Line Co., Sinclair Pipe Line Co. and Magnolia Pipe Line Co. on Saturday. Some of the pipe line companies posted notices they would not run any oil on Sundays. The Texas Pipe Line Co. and Shell Pipe Line Co. led in this announcement, the others doing the same, but not sending out notices.

Total Operations

There are 634 operations in the district distributed as follows: 222 in the Lathrop-North Gregg area; 42 in the Gladewater and West Upshur area; 145 in the South Gregg area, 64 in the Bateman and North Rusk area; 138 in the Joiner-South Rusk area and 23 in Smith County. North Gregg continues to lead as the most active area in the district, while South Gregg is second in number of activities.

There are 96 locations in the district, 163 derricks up, 70 rigging, and 265 actually drilling, while 40 others are shut down for various reasons.

The seven leading producers in the area, with number of activities, are as follows:

Company—	Producers	Active	Actually drilling
Humble Oil & Ref...	452	50	15
Gulf Prod.	235	28	12
Magnolia Pet.	232	17	9
Sinclair Oil & Gas ..	166	6	1
Shell Pet.	118	19	10
Tidal Oil	96	14	12
Stanolind Oil & Gas	95	23	11

First Gas Well

Peyton Brothers' No. 1 Perry in the L. N. Sparks Survey, approximately 2 miles south of production in the Joiner area, southern Rusk County, has been completed as a gas well and the United Gas Co. is connecting with the well to take the gas, which is estimated at from 8,000,000 to 10,000,000 feet a day. This is the first gas well to be completed in the East Texas producing area. A gauge could not be taken on account of leaky connections.

The flow of gas was switched from casing to tubing, cutting down the volume of gas to between 5,000,000 and 6,000,000 feet, building up 1,400 pounds pressure in four minutes when so changed. It has been blowing partially open to prevent blowing off connections. New connections will be installed.

Sand in this test was topped at 3,687 feet, tubing was swung at 3,693 feet, with the bottom of the hole standing at 3,718 feet.

Although the test did not make an oil producer, it is considered another extension to the pool, proving approximately 3,040 more acres for the district. Stanolind Oil & Gas Co.'s No. 1 Burton, in the T. White Survey, was completed last week, adding around 1,450 proven acres to the field. It is approximately 2 miles north of the Perry gas well.

Cherokee County's Chance

The Texas Company's No. 1 Kersh in the Fowlkes Survey, 2 miles west of the Burton producer, was completed this week at a total depth of 3,624 feet. Sand was topped at 3,618 feet. The well made 60 bbls. per hour through 2-inch tubing before being shut in. This producer is the farthest producer in the southwest corner of the Joiner area, being 4,000 feet east of the Cherokee County line, giving the northeast corner of that county more prospects for producing.

Merry Brothers and Perini have made a location in the northeast corner of a 90-acre tract on the Annie Kelly farm in the M. De Los Santos Coy Survey, which lies in the extreme northeast corner of Cherokee County. This test may prove to be the first producer for this county, opening the fifth county to production in the district along with Upshur, Gregg, Rusk and Smith. It is approximately 3,000 feet south of the nearest producer on the Mid-Kansas Oil & Gas Co.'s Sharp lease, and approximately 1 mile northwest of The Texas Company's No. 1 Kersh. This test will be watched with considerable interest.

Smith County Well

Sinclair Oil & Gas Co.'s No. 1 Wiley in the J. Jordan Survey, the extreme western producer of the Joiner area, Smith County, formerly temporarily abandoned at a total depth of 3,894 feet and left standing for several months, has been completed for an initial production of 100 bbls. per hour through open tubing, making 36 per cent salt water. It was cemented back to 3,500 feet from the total depth of 3,894 feet and the plug drilled to 3,853 feet. Top of the sand was logged at 3,845 feet. This is the first test to be practically abandoned then worked over and a producer made of it.

It is approximately 1,600 feet west of the nearest producer and the company has staked a location 1,100 feet to the east, between it and production. The test was temporarily abandoned May 15, 1931, when it showed up mostly salt water.

Another dry hole has been abandoned on the west side of the Overton area, J. R. Meeker and others' No. 1 Bacon in the William Sparks Survey. It is approximately 2½ miles west of production, and was hardly considered as having a chance for producing, as salt water has been struck in three wells between this test and the main part of the field. It drilled sand showing salt water at 3,920-75 feet. Surface elevation is 454 feet, making top of the sand minus 3,466 feet, or approximately 150 feet below the water table in the field.

New Tests

The Simms Oil Co. has transferred a half interest in 3,200 acres centering around the Martha Ingram Survey near the town of Bivens in Cass County, including a full interest in the D. W. McDonald 61-acre tract in the same survey, this interest going to W. S. King, of Boston, Mass. A test will be started by Mr. King, on or before January 25. Other considerations have been included in the contract. The test may go to the Rodessa gas horizon or to approximately 6,000 feet if production is not found at a shallower depth.

Mr. King also purchased approximately 720 acres in the W. Donaho Survey, near the test, 254 other acres in the area, and obtained an option on 600 checkerboard acres north and south of the original block.

Showers and Moncrief sold to Stoddard and Delaney and McCrary a 1¼-acre lease and one producing well in the Castleberry Survey, their 3-acre Snoddy lease in the William Robinson Survey, including one producing well, and their Collins 1¾-acre lease with two producing wells, in the Hooper and King Surveys, Gregg County.

The Republic Production Co. sold its 10-acre Alexander lease on the east side of the Lathrop Field, Gregg County, to Barclay and Meadors. This lease is near the Pipes and Mack's No. 1 Alexander in the D. Sanchez Survey. Payment to be made out of one-quarter of seven-eighths of the oil produced.

The Central Commercial Oil Co., of Tulsa, took over Shell Petroleum Corp.'s 137-acre tract in the M. Timson Survey, and will start a well at once. Shell is

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EAST CENTRAL TEXAS WILDCATS

Week End'ng January 18

ANDERSON COUNTY

Company, well, farm name, section and block— Remarks:

C. R. Wilmuth et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in 8½ of 129-ac. tract, M. Main Sur. ..... Drlg. 1,140 ft.

BOWIE COUNTY

Logan and Elliott's No. 1 J. W. Smith, 9,600 ft. S and 2,500 ft. W of NE cor. of survey, Chas. Lewis Sur... S.D. 4,502 ft.

W. S. Langford's No. 1 W. W. Whybark, 200 ft. from S and W of SW cor. of J. A. Dyer Sur. ..... S.D. 1,880 ft.

Lee Timberlake et al's No. 2 Julius N. Tidwell, 655 ft. from E and 2,510 ft. from S of survey in L. M. Rice Sur. ..... S.W. on D.S. test; S.D. 3,012 ft.

CHEROKEE COUNTY

Bridges and Candler's No. 1 Berryman, center of Berryman tract, H. Kimble Sur. ..... S.D. 1,000 ft.

Denman et al's No. 1 Mrs. Renfroe, 330 ft. N of S line and 330 ft. E of W line of farm, Uriah Moore Sur. ..... Derrick.

Harper and Perkinson's No. 1 J. T. Lowery, 650 ft. from N line, 150 ft. from W line of Blk. No. 5 on a 139.6-ac. tract, 4 miles W of Troupe, C. B. Jennings Sur. ..... Rigging up.

Merry Bros. and Perini's No. 1 Annie Kelley, 330 ft. from N line and 443 ft. from E line of 393-ac. tract and 90-ac. lease, M. De Los Santos Coy Sur.... Location.

Wilson & Stubbs' No. 1 L. Robart, 450 ft. from S and 150 ft. from W of lease, J. B. Wolfin Sur. ..... S.D. 2,035 ft.

DALLAS COUNTY

Long Creek Dev. Co.'s No. 1 T. J. Lupton, center of 160-ac. tract, 3½ miles N of Mesquite, J. Johnson Sur. ..... Derrick pattern.

Paris' No. 2 Wilkinson, 2,787 ft. from NW and 3,241 ft. from SW of John P. Anderson Sur. ..... T.D. 1,230 ft; S.D.

Joe Wilson's No. 1 fee, 600 ft. from N line and 600 ft. from W line of 1,500-ac. tr., Jno. Scroggs Sur... Drlg. 1,015 ft.

DELTA COUNTY

Worthington et al's No. 1 Pejernett, 776 ft. from S and 150 ft. from W in E. Chick Sur., 1¼ miles W of Horton ..... S.D. 3,315 ft.

ELLIS COUNTY

Clark Brooks' No. 1 C. W. Golliday, 300 ft. from S line and 300 ft. from E line of tract and survey, John Bones Sur. ..... Underreaming 6⅝-in. csg.; T.D. 1,800 ft.

E. M. Roger's No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur. ... S.D. 1,435 ft.

Worthen Pet. Co.'s No. 1 Cerf, 2½ miles NE of Ennis.. T.D. 2,264 ft.

FRANKLIN COUNTY

Tom Harper's No. 1 fee, 150 ft. from N line and 200 ft. from E line of 116-ac. tr., W. M. Dawson Sur... Derrick.

GREGG COUNTY

Arkansas Fuel Oil Co.'s No. 1 C. L. Taylor, 295 ft. from N and S lines and 330 ft. from W line of E 21.94 acres of S 39.76 acres of 114.76-ac. tract, W. H. Castleberry Sur. ..... Drlg. 440 ft.

Atlantic & Pacific's No. 1 Ed Harvey, center of SE one-half of Blk 30, H. R. Hokit Sur. ..... Rigging up.

Barnsdall Oil Co.'s No. 1 Grant Benson, 330 ft. from S and E lines of 50ac. tr., W. P. Chisum Sur. ... Location.

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Effective February 1—

A special low royalty rate for converting straight run gasoline and naphtha into high anti-knock motor fuel will be available to the entire refining industry February 1

The special rate will apply to the fraction boiling off up to 400° F, whether separately cracked or cracked as a fraction of crude oil, or any other charging stock

The new low rate gives you:

1. Highest anti-knock product
2. Low gas loss
3. Patent protection
4. Helpful service
5. Continuing development through research

The patent protection alone is well worth the price

Universal Oil Products Co

H. J. Hall
President

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

Deep Test in Irion County Resumes

Schleicher County Test Drilling. Big Lake Wells Active. Ward County Well Declines in Production. North Texas Locations

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 18.—There was only one location staked in West Texas this week, a wildcat location in Culberson County by Harris and Haun on the Seay ranch, Section 16, Block 54, Public School Lands. Crane, Upton, Ward and Pecos Counties each had one completion, all of them producers.

Stanolind Oil & Gas Co.'s No. 1 Williams, in Section 1,195, T.T. Survey, Irion County deep test which will drill in search of the Big Lake deep pay, Reagan County, has resumed drilling with heavy rotary equipment at 6,795 feet in sand and shale. The test is expected to go down without further delays. It has been shut down for some time moving in and rigging up rotary equipment.

Wessner and others' No. 1 Nicks, in Section 77, Block LL, T.C. Survey, the most interesting test in Schleicher County due to having encountered a good oil showing at 4,006 feet, is drilling at 5,485 feet in sandy shale. Eastland Oil Co.'s No. 1 Tisdale, in Section 29, Block M, G.H.&S.A. Survey, same county, is drilling at 4,575 feet in brown shale.

Big Lake Pool

Status of active deep wells in the Big Lake Pool, Reagan County, is as follows: Big Lake Oil Co.'s No. 2-C University, fishing drill pipe at 8,692 feet; Group No. 1 Oil Corp. and Continental Oil Co.'s No. 1-B University, drilling at 8,596 feet in lime; No. 2-B University has reamed to 8,658 feet, and will deepen from its present depth of 8,667 feet; shut in April 6, 1931, after proving the largest deep well in the pool; No. 3-B University is standing shut down at 8,970 feet, averaging over 2,300 bbls. per day on a week's test.

Ector County

Some lease buying has been going on in West Texas for some time. One of the latest purchases was made by the Humble Oil & Refining Co. near Weekley Oil Corp., Casteel and McCurdy's No. 1 Cowden in Ector County. The company purchased Section 34, Block 43, Township 2s, T.&P.R.R. Survey. This section adjoins Section 33 on the east. The gasser is in Section 33. This adds to the acreage which the company formerly purchased near the test, in Sections 21, 20, 28 and 29, Township 2s. The test is now shut down while tools are fished out, the tools being blown up the hole and stuck when a pocket of gas was struck at 3,795 feet. Total depth of the hole is 3,798 feet.

Ward County

Two and a half inch tubing has been run in Shipley, Byrd and Harmon's No. 1 Monroe, in Section 3, Block 1, W.&N. W. Survey, western Ward County, but the well failed to respond as expected when tubing was run, but instead, declined in production, flowing only 70 bbls. during the first 24 hours after the tubing was run. The well has been flowing around 100 bbls. per day since 4¾-inch pipe was run.

Tapered 1-inch to three-eighths-inch tubing has been run in many of the producing wells in southern Ward County aiding all of those wells in increasing their production, but production is coming from a different pay horizon in these wells than found in the Monroe well, which no doubt makes the difference in production of the wells. In the southern pools of the county 180 feet of three-eighths-inch tubing is run, 400 feet of one-half-inch tubing, 500 feet of three-quarters-inch tubing and around 1,390 feet of 1-inch tubing. Total depth of the wells is around 2,500 feet, while total depth of the Monroe well is 4,666 feet, and the well is producing from the Delaware sand. The others are producing from lime and sand pay horizons.

RANGER AND WICHITA FALLS

There were six locations staked in the Ranger district during the week, one in Brown, three in Callahan, one in Coleman and one in Shackelford County. There were three locations in Wichita County and six in Young County.

The Prairie Oil & Gas Co. and Amerada Petroleum Corp. opened another producing area in the northwest corner of Palo Pinto County this week when their No. 1 Ritchie, in the C.T.R.R. Survey, Abstract 140, topped the Edgin sand at 1,702 feet and was shut down at 1,703 feet, filling up 400 feet the first hour, and making five small flows in 12 hours.

This well is about 2 miles southwest of two wells which the companies drilled a year ago, producing from the Strawn sand, which is approximately 200 feet above the Edgin sand found in this last strike. It is located on a 528.5-acre tract in almost the center of Amerada's block of around 3,500 acres. The Prairie Pipe Line Co. is taking the production from the former two producers, each well allowed to produce 10 bbls. per day. A test will be made of this new discovery as soon as 6⅝-inch casing is set.

Another new Strawn Field was opened this week in Young County, Wichita Falls district, when Knox's No. 1 Manning, in the southwest corner of Lot 7, Abstract 1,232, T.&L. Survey, 4 miles northeast of the Morrison Pool and the same distance northeast of Graham, topped the sand at 2,749 feet and was shut down at 3,758 feet estimated good for 250 bbls. per day. It filled up in one hour and flowed through 8-inch pipe. It is an east offset to an 80-bbl. well which was brought in about eight months ago by Knox. Independent operators own the majority of the acreage in this area.

PANHANDLE

There were two locations in the Panhandle district during the week, one in Carson and one in Gray. Two other wells were completed.

COMPLETIONS IN PANHANDLE DISTRICT

Gray County

Magnolia Petroleum Co.'s No. 1 Arnold, temporarily abandoned, location.

Hutchinson County

Skelly Oil Co.'s No. 1-B Johnson, top pay 3,065 feet, initial production 5 bbls. oil with 3,000,000 feet of gas, total depth 3,140 feet.

Moore County

Texhoma Natural Gas Co.'s No. 2 Coon, shot 160 quarts from 2,870-3,183 feet, initial production 6,000,000 feet of gas, total depth 3,251 feet.

COMPLETIONS IN WEST TEXAS

Crane County

Gulf Production Co.'s No. 8 McElroy, top pay 2,755 feet, initial production 362 bbls. in 16 hours, shot 300 quarts from 2,745-2,885 feet, total depth 2,898 feet.

Upton County

Texas Pacific Coal & Oil Co.'s No. 1-C Lane, top pay 2,290 feet, initial production 182 bbls., total depth 2,342 feet.

Ward County

Bradford-Bentley's No. 1 Beaty, top pay 2,338 feet, initial production 40 bbls., total depth 2,505 feet.

Pecos County

Cardinal Oil Co.'s No. 10-E Tippett, top pay 480 feet, initial production 20 bbls., total depth 505 feet.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending January 18

ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks:
Fuhrman Pet. Co.'s No. 1 Boner, 1,320 ft. from N and 440 ft. from W Sec. 24, Blk. A-43, P.S.L.	Cellar.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F. Sur.	S.D. 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	S.D. 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	S.D. 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine	S.D. 1,750 ft.

COCHRAN COUNTY

Penn Oil Co.'s No. 1 Slaughter, C Labour No. 80 of League 129, Carson County School Lands	S.D. 5,002 ft.

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E Sec. 163, T.&N.O. Sur.	Rig up; National machine.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. G. Emmig Sur. 130, 6 miles W of Paint Rock	S.D. 1,850 ft.

CROCKETT COUNTY

Doleman & Moore's No. 1 Ferner, 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and S.D.

CULBERSON COUNTY

Harris-Hann's No. 1 Seay, 1,980 ft. from N and E of Sec. 16, Blk. 54, P.S.L.	Location.
Kornrumpf et al's No. 1 Garen, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land	S.D. 1,280 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW Sec. 46, Blk. M, E.L.&R.R. Sur.	To resume drilling.

ECTOR COUNTY

Weekly Oil Corp. et al's No. 1 Cowden, 1,980 ft. from N and W Sec. 33, Blk. 43, Twp. 2s, T.&P. Sur.	Est. 500,000 ft. gas 3,795 ft.; increase 3,797 ft.; fishing 3,818 ft.
H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M. M.Br.&A. Sur.	S.D. 3,280 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadelia, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247	S.D. 1,960 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 380 ft. from E Sec. 200, Blk. 1, B.B.B.&C. Sur.	S.D. 3,795 ft.
Cranfill & Reynolds' No. 1 Snipe, 330 ft. from N and W lines of Sec. 195, Blk. 1, B.B.B.&C. Sur.	T.D. 3,140 ft.; P.B. 3,112 ft.; est. 35 bbls. day.
Southern Oil Corp. of America's No. 1 Wm. Flannigan, 240 ft. from E and 165 ft. from W line of S 20 acres of SW Sec. 20, B.B.B.&C.R.R. Sur.	Setting csg. 375 ft.

GLASSCOCK COUNTY

Mann et al's No. 1 fee, 330 ft. from N and 1,980 ft. from E Sec. 37, Blk. 34, Twp. 3s, T.&P. Sur.	Location.

(Continued on Page 67)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending January 18

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
Continental Oil Co.'s No. 4 Block, 330 ft. from N, 990 ft. from E, Sec. 111, Blk. 4, I.&G.N. Sur.	Cellar.
H. A. M. Oil Co.'s No. 2 Cooper, 330 ft. from S and E, Sec. 5, Blk. 9, I.&G.N. Sur.	Location.
Texhoma Natural Gas Co.'s No. 1 Burnett, C NE, Sec. 54, Blk. 4, I.&G.N. Sur.	Sidetracking tools 865 ft.
Texhoma Natural Gas Co.'s No. 1-G Gore, 1,320 ft. from S and 1,327 ft. from W, Sec. 42, Blk. 4, I.&G.N. Sur.	Rig.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur.	S.D. 2,508 ft.
Downey et al's No. 1 Beasly, SE cor. SW SE, Sec. 95, Blk. 15, H.&G.N. Sur.	Rigging up.

DEAF SMITH COUNTY

Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-3n-2e	Drlg. 375 ft.

GRAY COUNTY

Back & Barber's No. 1 Back, 660 ft. from S and 330 ft. from W, Sec. 140, Blk. 25, H.&G.N. Sur.	S.D. 765 ft.
Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur.	Spudded and S.D.
Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur.	S.D. 2,720 ft.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur.	S.D. 3,010 ft; cleaned up fishing job.
Jewel Oil Co.'s No. 1 Meers, 330 ft. from S and W of NW SW, Sec. 106, Blk. 3, I.&G.N. Sur.	S.D. 2,060 ft.
Mid-Kansas O. & G. Co.'s No. 1 Carpenter, 330 ft. from S, 990 ft. from W, Sec. 37, Blk. 25, H.&G.N. Sur.	Drlg. 2,225 ft.
Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur.	S.D. 2,619 ft.
Nipper et al's No. 1 Morse, 330 ft. from N and E, Sec. 1, Blk. 26, I.&G.N. Sur.	S.D. 2,365 ft.
Operators Royalty & Prod. Co.'s No. 2 Arnold, 330 ft. from S and W, Sec. 149, Blk. 3, I.&G.N. Sur.	Location.
Prairie O. & G. Co.'s No. 1 Morse, 417 ft. from N and 453 ft. from E, Sec. 4, Blk. 26, H.&G.N. Sur.	T.D. 2,705 ft; shot and flowed 65 bbls. in 3 days.
Pulse-Shell Pet. Corp.'s No. 1 Wright, 330 ft. from S and W of Sec. 13, Blk. 3, I.&G.N. Sur.	S.D. 2,642 ft.
Saunders et al's No. 2 Sullivan, 822 ft. from W and 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur.	Will plug back to 3,275 ft. and shoot.
Skelly Oil Co.'s No. 24 Schaffer, 440 ft. from W Sec. 172, Blk. 3, I.&G.N.	Location.
Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9, H.&G.N. Sur.	S.D. 2,832 ft.

(Continued on Page 67)

New Play on East Flank Barbers Hill

Test Inside Wells Under Salt Overhang Opens Prolific Production in Oligocene at Shallower Depth. Offsets Started

By Nell Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Jan. 18.—What promises to be the forerunner of another development play on the east flank of Barbers Hill Dome was the completion the past week of Mills Bennett Production Co.'s No. 6 Wilburn which, located high up on the dome and inside the circle of wells in the shallower Miocene sands under the salt overhang, has opened new prolific production in the Oligocene and at considerably shallower depth. This well, at a total depth of only 5,024 feet, came in flowing at the rate of 1,280 bbls. daily, but since has increased its production materially.

Discovery of this production comes during the active development of the shallower Miocene sand around 4,400-4,500 feet, which has been under way on that flank only since August. No. 6 Wilburn, being only 125 feet to the west and in toward the center of the dome from No. 5 Wilburn, a Miocene sand well, passed up that horizon with a view toward finding the deeper Oligocene sand high. This has been identified as the same sand which is producing in a line of deep wells skirting the edge of the dome and at a depth of between 5,200 and 5,400 feet.

Development of the Oligocene production in the 5,200-5,400-foot wells began late in 1928 and reached a peak late in 1929. It preceded the discovery of the salt overhang at Barbers Hill and was at a time when the topping of the cap rock and salt meant abandonment of wells and defining of the limits of production. Since then it has been found that the cap rock and salt previously drilled into is a protruding ledge from a central core and that the producing sands extend up under the ledge to find contact with the main salt core, the limits of which on the east flank so far have not been proved.

Offsets Rigging Up

The productive 4,400-4,500-foot Miocene sand, which is now being developed actively by a line of wells being drilled up on the dome and through the thick salt overhang, and located inside the circle of deep Oligocene wells, was passed through by the Oligocene wells but, being so far out from the point of contact with the salt, showed only water. Now, the drilling still farther in and the finding of the deep Oligocene horizon around 200 feet higher up on the dome offer possibilities that the previous Oligocene development was only on the outside of the main production yet to be developed.

To offset Mills Bennett Production Co.'s new well, Gulf Production Co. already is rigging up on its No. 7 Wilburn, located 177 feet west of its No. 6 Wilburn, a 4,400-4,500-foot Miocene sand well, recently completed. McAlbert Oil Co. is rigging up for No. 5 Wilburn, 275 feet west of No. 4, a Miocene sand well, and Sun Oil Co. is rigging up for its No. 13 J. Wilburn, 200 feet west of No. 12, a Miocene sand well. As in the case of other plays on the east flank, numerous ownerships on small tracts will force an active development through "line fights."

Barbers Hill is one Gulf Coast Field in which there has been an almost continuous active, but forced, development since October, 1928, when the first production of any importance was opened in the deep Oligocene sand on the east flank. The activity has shifted from one sector to another with new discoveries being opened in time to succeed each declining play.

Another addition also was made to the list of Miocene sand wells on the east flank with the completion of Sun Oil Co.'s No. 12 Wilburn, which came in flowing 1,200 bbls. daily from the sand at a total depth of 4,472 feet.

That many of these 4,400-4,500-foot Miocene wells will be deepened to the Oligocene sand as production in the former declines is certain in view of the fact that this circle of wells lies between the Mills Bennett new well and the original deep production and the combined plays probably will result in making Barbers Hill one of the largest producing domes on the coast.

On the west flank of Barbers Hill Sun Oil Co. deepened its No. 2 Winfree from a sand at 5,388 feet to a total depth of 5,637 feet, and, with 46 feet of screen set, the well came in flowing 295 bbls. in the first 14 hours through a quarter inch choke.

Refugio Field

United Production Corp.'s No. 2-A Fox, located 3½ miles northeast of the nearest 6,400-foot sand production at Refugio, in the lower coastal country, was completed the past week in that sand at 6,466-74 feet. It came in making gas with a pressure of 1,500 pounds on the casing and 1,300 pounds on the tubing but later started to spray some high gravity oil, the volume of which now has increased to around 100 bbls. daily through a quarter inch choke. In addition to being an extension of this sand, the well also is a 1,600-foot north extension of what is known as the Fox extension, in which 5,800-5,900 foot wells have been completed.

Pierce Junction Well

The only other completion of importance on the Gulf Coast the past week was Gulf Production Co.'s No. 34 Taylor, located on the south end of production on the east flank of Pierce Junction. This well, 350 feet west of a former producer, No. 22, in sand at 3,979-4,000 feet, flowed at the rate of 900 bbls. daily through a three-quarter inch choke.

Dry Holes

Gulf Production Co. abandoned two other tests, one at Big Creek and the other at Moss Bluff. At the former, No. 62 Davis went into heaving shale at 4,424 feet and was quit, while at Moss Bluff No. 4 McFaddin was dry at a total depth of 7,380 feet. The latter is one of a long series of deep dry holes which have been drilled around the Moss Bluff Dome within the past year. Three producing wells have been completed on this dome, located on the east flank, but these were brought in during 1930 and the early part of 1931 and since then, although a number of tests have been drilled, even around these producers, no additional production of importance has been uncovered.

Victoria County

Bunte and associates' No. 1 Keeran, wildcat in the Martin DeLeon Survey, southeastern Victoria County, which is in a sand showing oil and gas at 5,182-91 feet, at latest report was waiting on casing to test. A drill stem test was made showing some oil with gas pressure 750 pounds. This test is approximately 15 miles to the east of the McFaddin Field in southwestern Victoria County and northern Refugio County.

Montgomery County

Some additional interest is being centered in Montgomery County with the starting up of a little lease activity, in which several of the major companies are taking part. The leasing is taking place not only in Montgomery County, where Strake Oil Corp. has a wildcat wet gas well in the Theodore Slade Survey, southeast of Conroe, but also is extending along that trend through southern San Jacinto County, where several substantial blocks and scattered tracts have been taken. So far no additional drilling has actually started up as a result of Strake's wildcat discovery although one location, that of Heep Oil Corp., has been made. However, according to several lease provisions, some new drilling will be forced within the near future.

Among new locations during the week was The Texas Company's No. 3 Polk at Port Neches, southwestern Orange County, where The Texas Company expects to do some additional drilling. This location is No. 3 Polk, located 500 feet north of No. 2, one of four producing wells in the field. One test, No. 1 Polk-Kuhn-Glass,, is drilling at present, it being down 4,767 feet. Another location, No. 3 Kuhn, has been reported previously.

Nearly a mile to the northeast of the East Hackberry Field, Union Sulphur Co. is to drill a wildcat. This is No. 1 Humble lease, located 284 feet north and 30 feet west out of the southeast corner of Section 11-12s-10w.

GULF COAST FIELDS AND WILDCATS

Week Ending January 16

All Rotary

BARBERS HILL—CHAMBERS COUNTY

Company, farm and location—	Remarks—
Mills Bennett Prod. Co.'s No. 6 Wilburn, Henry Griffith League, 125 ft. W of No. 5 in center of tract	Set screen 5,024 ft.; comp. flowing 1,280 bbls. P.L. oil, 400 l s. pressure, ½-in. choke.
Mills Bennett Prod. Co.'s No. 5 Gulf-Fisher, Wm. Hodges Sur., 75 ft. from N line, 191 ft. W of No. 4	Sand showing oil 4,378-4,407 ft.; cmtd. 9⅝-in. csg. 4,368 ft.
R. E. Ferrell's No. 3 Wilburn, Henry Griffith League, 215 ft. W of No. 1 in center of 45-ft. tract	Drlg. hard sand and boulders 1,872 ft.
Gulf Prod. Co.'s No. 7 Wilburn, Henry Griffith League, 177 ft. W of No. 6	Derrick.
McAlbert O l Co.'s No. 5 Wilburn, Henry Griffith League, 375 ft. of No. 4	Derrick.
Rio Bravo Oil Co.'s No. 2 Fisher (W.O.), W. D. Smith Sur., 50 ft. out of NW cor. of tract	T.D. 5,390 ft.; sidetracked hole 2,384 ft.; drlg. shale 2,936 ft.
Sinclair Oil & Gas Co.'s No. 9 Wilburn, Wm. Hodges Sur., 50 ft. N of S line and 550 ft. W of No. 6	T.D. 4,619 ft.; set 1 jt. screen, 119 ft. blank and 1 jt. screen 4,577 ft. (top of big lime); swabbed salt water; pulling screen to deepen.
Sinclair Oil & Gas Co.'s No. 10 Wilburn, Wm. Hodges Sur., 50 ft. S line, 100 ft. W of No. 9	Set 46 ft. of 7-in. screen 4,434 ft.; swabbed salt water; pulling screen to deepen.
Sinclair Oil & Gas Co.'s No. 11 Wilburn, Wm. Hodges Sur., 125 ft. W of No. 8 and 45 ft. S of N line	Drlg. hard water sand 4,239 ft.
Sun Oil Co.'s No. 2 Higgins, Wm. Bloodgood Sur., 1,095 ft. W of No. 1 and 50 ft. N of S line	Cem. cavity 3,643 ft.
Sun Oil Co.'s No. 12 Wilburn, Wm. Hodges Sur., 50 ft. from N line and 75 ft. W of No. 11	Set 45⅝ ft. of 5-in. screen 4,472 ft.; comp. flowing 1,200 bbls. P.L. oil, ½-in. choke.
Sun Oil Co.'s No. 13 J. Wilburn, Wm. Hodges Sur., 200 ft. W of No. 12	Location.
Sun Oil Co.'s No. 2 Winfree (W.O.), W. D. Smith Sur., 50 ft. from SW line and 150 ft. of S line	Set 2 joints 3½-in. screen 5,637 ft.; comp. flowing 295 bbls. first 14 hrs., 590 lbs. pressure, ¼-in. choke.
The Texas Company's No. 2 Lawrence, Henry Griffith League, 240 ft. from E line and 412 ft. from N and S lines of strip	T.D. 5,209 ft.; cmtd. 4½-in. csg. and screen; drld. plug; swabbing.
The Texas Company's No. 8 Wilburn, Henry Griffith League, 25 ft. W of No. 5 and 50 ft. N of S line of tract	Drlg. anhydrite and pyrites 1,360 ft.
Texas Gulf Producing Co.'s No. 1 J. M. Fitzgerald, Henry Griffith League, 75 ft. from W line and 125 ft. from S line of tract	Sandy shale showing oil 5,219 ft.; cmtd. 7-in. csg. 5,202 ft.
Texas Gulf Producing Co.'s No. 9-B Kirby, Henry Griffith League, 50 ft. out of SW cor. of J. M. Fitzgerald 50-acre tract and 110 ft. S of N line of Kirby tract	Derrick.
Texas Gulf Producing Co.'s No. 9-H Kirby, Henry Griffith League, 87 ft. W and 130 ft. N of No. 8-H	Cmtd. 24-in. csg. 36 ft.

HUMBLE—HARRIS COUNTY

J. E. Burt et al's No. 2 C. O. &G.-The Texas Co. fee, J. R. Stevenson Sur., 450 ft. N of No. 1	Location.
Sun Oil Co.'s No. 27 Bender, W. R. Adams Sur., 250 ft. W of No. 26 in line with No. 25	Spudded.
The Texas Company's No. 37 Koehler, J. B. Stevenson Sur., 717 ft. E and 603 ft. S of NW cor. of SW fee tract	Drlg. brown sticky shale 4,438 ft.
E. M. Wilson's No. 7 W. & P. Gulf fee	Drlg. sticky shale 1,438 ft.

PORT NECHES—ORANGE COUNTY

The Texas Company's No. 1 Polk-Kuhn-Glass, 260 ft. E and 1,545 ft. S of SW cor. Marshall Beaucham Sur., in the T. J. Notgrass Sur.	Drlg. sand with streaks of shale 4,767 ft.
The Texas Company's No. 3 Polk, T. J. Notgrass Sur., 500 ft. NE of No. 2 Polk	Location.
The Texas Company's No. 2 Kuhn, 587 ft. S and 150 ft. W of NE cor. of the Mary E. Hall Sur. No. 2	Location.

BIG CREEK—FORT BEND COUNTY

Gulf Prod. Co.'s No. 62 Davis, M. Young Sur., 400 ft. NE of No. 19 and 600 ft. SE of No. 57	Aband. in heaving shale 4,424 ft.

HULL—LIBERTY COUNTY

Eclipse Oil Co.'s No. 1 Barrow, Jesse DeVore Sur., 50 ft. from N line and 31 ft. from E and W lines 37-acre tract	Derrick.
Republic Prod. Co.'s No. 89-A Dolbear, Jesse DeVore Sur., 25 ft. W of No. 89	Drlg. 3,000 ft.

(Continued on Page 69)

Pipe Line Construction News

SIXTEEN-MILE LINE BUILT IN 14 DAYS

Successful drilling activities conducted by the Continental Oil Co. not long ago in the Greasewood Field, Weld County, northern Colorado, opened up a new crude supply for the Denver refinery.

One problem remained, however, before this production could be profitably utilized. Due to the fact that the Greasewood Field is 16 miles from the town of Hardin, the nearest point where railway transportation is available, it became necessary to provide an efficient and economical mode of transportation to bridge the distance.

Accordingly plans were made by the Continental Pipe Line Co. for the construction of a 4-inch line. Fourteen days later the line had been completed and crude oil was being pumped through it to a receiving tank and a tank car loading rack on the Union Pacific Railway at Hardin. Although this was not considered phenomenal time by the men working on the project, it demonstrates, nevertheless, the speed and precision which modern pipe line laying operations have achieved. The ditching, pipe laying and back filling progressed at the rate of more than a mile a day. Since the railway haul from Hardin to the Denver manufacturing plant is short and convenient, the problem has evidently been solved in a satisfactory manner.

The county traversed by the line is rolling upland composed of sandy soil. The line is constructed of seamless plain-end pipe and, because of the extremely cold weather encountered in this area together with the high congealing point of the crude produced, the line has been given a minimum covering of 4 feet of earth. This is below the frost line. The loading rack and field station were constructed by Continental but the main line was built by contractors. Snow and extremely cold weather delayed the contractor almost 10 days.

A "ten spot" steel loading rack was built at Hardin together with a 5,000-bbl. bolted steel tank. It was felt that this equipment would be sufficient for all requirements and would permit anticipated maximum operations, although an unusually large production of oil would undoubtedly require more storage capacity and an additional track. This would double the present capacity of the loading rack.

The field lines are arranged so that all the production may be placed in Conoco station tanks by gravity. The pump station consists of a 125 horsepower Waukesha motor, using gas for fuel, connected by a tex-rope drive to a 3.5x10 New Type Gaso Duplex pump. The station was constructed to require very little attention, for it is possible for one man to operate it and gauge the lease tanks.

SAYS REGINA PROJECT HAS NOT BEEN DROPPED

The proposal of the Power Corp. of Canada to supply natural gas to Regina, Saskatchewan, though temporarily withdrawn, has not been abandoned, according to an official statement from the company's office in Montreal. The company is still actively interested in this project, and when economic conditions show improvement, expects to go ahead with the undertaking, which involves construction of a 175-mile pipe line and a local distributing system at an aggregate cost of approximately $10,000,000. The project may be extended to serve other Saskatchewan cities as well as Regina, and in addition to the Bowdoin production, will utilize gas production that may be developed in Saskatchewan itself.

STEEL TRADE BELIEVES RECESSION PERIOD OVER

By B. E. V. Luty

PITTSBURGH, Pa., Jan. 18.—Unofficial reports have it that production of welded and seamless tubular goods in 1931 was in the neighborhood of 2,000,000 gross tons. This would compare with 2,247,388 tons of welded and 1,193,717 tons of seamless in 1930, showing 36 per cent decrease. Estimating total production of steel at 25,000,000 tons of ingots in 1931, there was 37 per cent shrinkage, so that tubular goods fully maintained their proportion of total steel made. There is strong reason to suspect that in each year a considerable tonnage of electric weld line pipe was omitted.

Opinion is spreading in the steel trade that the recession period of business has ended and that things are on the verge of mending, even if in a small way. The talk is that there is a more hopeful feeling. The view is expressed by some who did not hold it before, during the long period in which some commentators were repeatedly predicting "improvement just around the corner."

NATURAL GAS LINES EXTENDED IN TEXAS

HOUSTON, Tex., Jan. 19.—United Gas Public Service Co. has just put in operation a 680 horsepower booster station at Longview, Gregg County, East Texas. The station is at the junction of the company's Boggy Creek-Huntsville 6-inch line and the line to Tyler and can boost gas either or both ways. The station has been provided because of the increased demand for additional line capacity occasioned by field development in East Texas and new connections. The company recently completed 44½ miles of additional line to serve new industrial and drilling needs of East Texas. That line consisted of 10, 8, 6 and 4-inch pipe spreading out the system until now virtually every town and community has gas connections. In addition to the Longview station two other new stations, at Marshall and Gladewater, previously had been completed.

STANOLIND IS ERECTING FLOATING ROOF TANKS

The Stanolind Pipe Line Co. is erecting 21 steel tanks with floating roofs at booster stations along its line in Kansas and Missouri. These tanks are from 10,000 to 18,000 bbls. in size and each selected large enough to empty the entire line between stations so that sweet or sour crude can be handled as required.

The Wiggins floating roofs with Wiggins gauges are being installed and in addition to the 21 tanks with roofs two floating roofs for 55,000-bbl. tanks are being installed.

This new work is undertaken to prepare the system to handle sulphur oils from West Texas, in anticipation of refinery demands for the coming summer.

SHORT 10-INCH LINE

WELLSBORO, Pa., Jan. 18.—Fifty men were employed today on the construction of a 10-inch pipe line from the Allegany Gas Co.'s No. 1 Hall to the borough of Lawrenceville, Pa. In addition to supplying Lawrenceville with gas, the line will tap the John B. Tonkin line, from the Tioga Field to Syracuse, at that place, turning some of its gas north into New York State.

The Hall well was brought in late last week for about 5,000,000 feet of gas daily. Workmen began their task of laying the line Monday morning.

NATURAL GAS TO OMAHA FOR PACKERS USE ONLY

OMAHA, Neb., Jan. 18.—At a cost of something like $1,000,000 for installation and pipe lines, natural gas is to be supplied to the big packing plants at South Omaha, Cudahy, Swift, Armours, and probably Dold. The gas will be purchased from the Northern Natural Gas Co., and work on the change from coal and oil to gas will start at once and will be completed by the time the new pipe line running from Plattsmouth, Neb., to the city limits of Omaha is completed. At Plattsmouth the Omaha line will connect with the pipe line from Amarillo, Tex., to Iowa and Minnesota points. A 30-inch pipe line will be used from Plattsmouth to Omaha. The announcement of the signing of the contract follows six months of negotiation between the packers, the city council and the Omaha Municipal Utilities Board.

The city of Omaha has twice voted down the use of natural gas for domestic purpose and the present contract restricts the use of natural gas to the packing houses and the Union Stock Yards Co.

Under the three-cornered contract the natural gas company will construct the 30-inch pipe line to the city limits. From this point the packers will build their own pipe lines to the individual plants. On the day these individual lines are completed, title is to pass, without compensation, to the Municipal Utilities system, although the packers will have their use, without further payment, for six years. If, at any time within six years, the municipal system decides to use natural gas instead of the manufactured article now distributed by it, the packers are to pass their natural gas contract to the city and the Northern Natural Gas Co. agrees to continue furnishing gas at the same price for use of the packers, regardless of the price the city will charge for the gas.

The cost of the pipe line from Plattsmouth to Omaha is roughly estimated at $300,000. Each of the packers will spend between $200,000 and $250,000 in making the transfer to gas. The combined cost will approximate $1,000,000.

The contract, all the terms of which have been agreed to by all concerned, will be signed as of January 15, and actual construction work will commence within a few days thereafter, the contract for the pipe and material to be awarded within 10 days or less.

The packers will use the natural gas only in places where gas is not used at present, the contract requiring the packers not to discontinue the use of manufactured gas wherever the manufactured article is now used.

Attention is called to the fact that the natural gas company is not being allowed entrance to the city nor is a franchise of any kind given the company. The nautral gas company's pipe line ends at the city line and the pipe line thereafter will be the property of the Omaha municipal system, although built at the expenses of the packers.

Omaha was the only Missouri River packing point at which the packing houses did not have access to natural gas fuel, Kansas City, St. Joseph and Sioux City all having natural gas.

ARGUS LINE EXTENSION

Argus Pipe Line Co., Dodge City, Kans., is constructing a gas transmission line from the main carrier operated by the company, the new line leaving the main at Dodge City, and extending 5 miles east to serve the newly completed plant of the Kansas Power Co. The extension will cross the Arkansas River. The company is a subsidiary of Northern Natural Gas Co., Omaha, Neb.

NEW YORK COMMISSION REPORT ON GAS SYSTEM

NEW YORK, Jan. 18.—Unit operation of natural gas deposits in New York State is suggested in the report of the State Public Service Commission a preliminary draft of which was made public today. The report summarizes the findings of a series of hearings held recently by the commission.

The outlook for natural gas in New York State is good, the report states, but the industry is badly in need of standardization and regulation as a conservation measure.

Taking up the question of the introduction of natural gas into areas now supplied only with the manufactured product the report says: "Where the local gas company has an up to date and efficient manufacturing plant it may be advantageous to supply mixed gas, utilizing the existing plants and spreading the natural supply over a longer period."

The commission has not yet arrived at a decision as to what constitutes a fair rate per therm and indicates that further study of the rate situation will be made before regulations are imposed.

While the outlook indicates a system of natural gas transmission lines to supply natural gas "to many industrial cities extending almost across the length of the State" the report warns investors that gas exploration is extremely speculative although stating that geological conditions in southwestern New York nevertheless indicate that new discoveries of gas in commercial quantities may be made, and adding that the old sources should continue to supply large quantities for many years.

PIPE LINE SUSPENSION BRIDGE OVER MISSOURI

The pipe line suspension bridge under construction across the Missouri River at Ponca, Neb., will be the largest bridge of its kind in the world when completed, according to the Northern Gas & Pipe Line Co., building it. Cost of the project will be in the neighborhood of $150,000.

A 1,280-foot span will carry the pipe 75 feet above the present water level and 66 feet above high water.

The main cable will be made up of 14 strands, which will be taken across the river separately and then bound together, and will weigh 28 tons. Two cables weighing 13 tons each will take care of the side push of the wind.

The towers from which the cables will be swung will be 160 feet above the water level. They will be anchored in cement 20 feet into solid rock. The pipe itself will be hung from the main cable by means of cradles every 20 feet.

LOS ANGELES EXPANSION

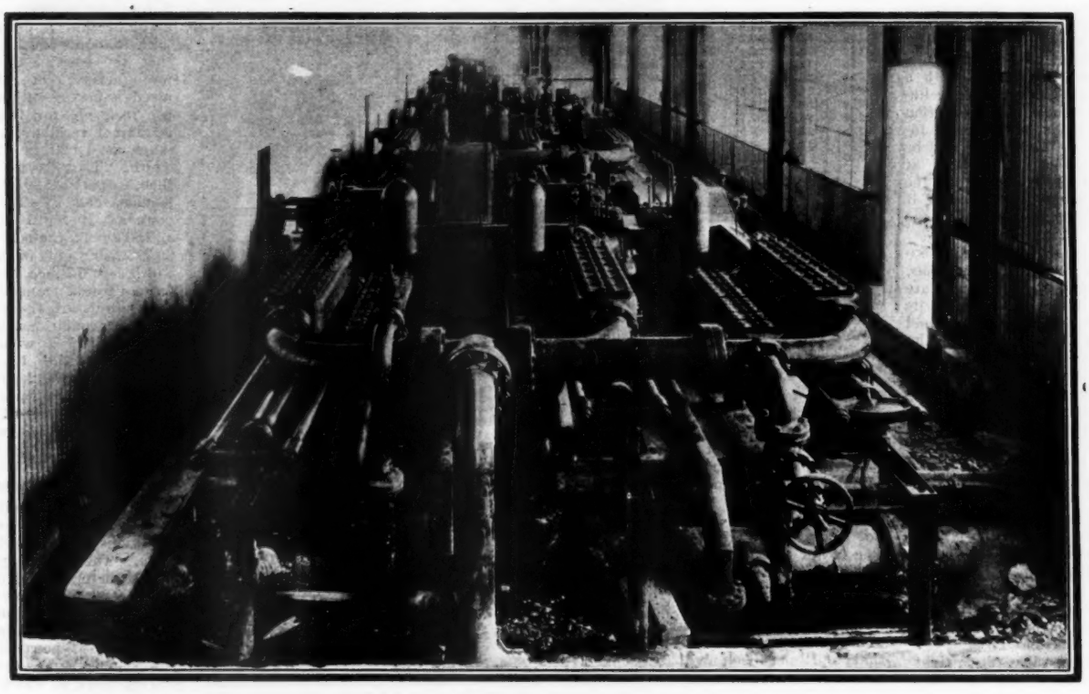
LOS ANGELES, Calif., Jan. 16.—Improvements and additions to the generating and distribution facilities of the Los Angeles Gas & Electric Corp. will involve an expenditure of nearly $4,000,000, according to an announcement by Addison B. Day, president and general manager.

Specific items on the 1932 program include 10 miles of commercial gas mains, 8,000 gas services, 5,000 gas meters, and 3,600 gas regulators.

HUMBLE CONSOLIDATES OFFICES

WICHITA FALLS, Tex., Jan. 18.—The North Texas division of the Humble Pipe Line Co. will be moved about January 20 to Cisco, Tex., where it will be consolidated with the West Texas division of that company. The production and geological departments remain here.

PRESCOTT PUMPS
on Magnolia's East Texas Line



Magnolia Pipe Line Company's Kilgore, Texas Station. Five PRESCOTT pumps are on the job here; three 30,000 barrel Triplex, and two 12,000 barrel Duplex.

◆

THE PRESCOTT COMPANY
MENOMINEE, MICHIGAN, U. S. A.

Prescott Pumps are built for either oil or gasoline—Any capacity—any pressure—any type of drive.

PRESCOTT PUMPS PREDOMINATE

Proper Selection of Oil Field Belting

Operators Can Save Money and Trouble by Calculating Proper Pulley and Belt Sizes to Give Greater Efficiency

By H. H. Wright
Gypsy Oil Co.*

Belts have been used for years in the oil industry as a means of power transmission. The production of oil, in its earlier development, did not impose strenuous demands upon transmission equipment because of small loads. In late years, with the advent of deeper drilling and heavier pumping loads, and with a steadily growing production and declining price, the efficiencies of production equipment and methods have become increasingly important. This paper will be confined to the application of belts at pumping wells for the reason that the pumping well offers the most common, if not the most difficult, belt drive in the production of oil.

The belt drive can be designed to operate under a wide range of conditions. Its flexibility enables it to operate smoothly against high peak loads; its simplicity and accessibility allow of rapid repair; and, finally, it is characterized by low initial and maintenance costs. The use of belts is particularly appropriate in the oil fields where well installations are apt to be short-lived, where transportation difficulties are common, and where repair requiring the use of machine tools and skilled labor can be effected only under difficulty. A properly designed belt drive should transmit power with a minimum of cost per barrel of oil produced, and with a minimum production loss due to repair down-time.

The Belting Equation

A relation known as the tension ratio exists between the tensions of the two sides of a belt when in operation. It is expressed by the equation $T_1/T_2 = e^{Fa}$; where T_1/T_2 = tension ratio, T_1 = tight-side tension, T_2 = loose-side tension, e = base of Naparian logarithms, F = coefficient of friction[1], a = arc of contact in radians.

For a given arc of contact, belt speed and pulley combination, the performance of a belt is dependent entirely on the coefficient of friction. The arc of contact, which refers to the number of degrees of pulley circumference contacted by a belt, also is important, but its variation usually is limited by the nature of the drive. Good belt performance and high tension ratio are synonymous. To make this more clear, assume a belt on two pulleys such that the arc of contact is 180°. Assume a coefficient of friction of 0.40. From the formula, the tension ratio is 3.51. If the coefficient of friction were increased to 0.80, the tension ratio would be 12.35. The effective pull, which is the difference between the tight-side tension and the loose-side tension, and from which, together with belt speed, horsepower capacity can be calculated, depends upon the tension ratio. This is shown in the following table, where a maximum allowable tight-side tension of 140 pounds per inch width is assumed.

TABLE 1

F (coefficient of friction)...	0.40	0.80
a (arc of contact).....	180°	180°
T_1/T_2 (tension ratio)*.....	3.51	12.35
T_1 (tight-side tension).....	140	140
T_2 (140/3.51 and 140/12.35)..	39.9	11.3
$T_1 - T_2$ (effective pull).....	100.0	128.7
$T_1 + T_2$ (total tension).....	179.9	181.3
T_0 (initial tension).....	89.9	75.7

*The tension ratio varies from 1.00 when the belt is idle to infinity when the belt is in operation with an infinitely large coefficient of friction. The latter case is exemplified in the chain drive. In other words, as the coefficient of friction increases, the total tension, $T_1 + T_2$, approaches T_1 as a limit.

*Presented at meeting Mid-Continent section, A. S. M. E., Tulsa.

[1]The coefficient of friction herein referred to is defined as the ratio of the force necessary to cause a belt to start sliding over a pulley to the force pressing the belt to the pulley. It is not intended to include increased coefficients that result after slip commences.

TABLE 2—HORSEPOWER PULLEYS WILL TRANSMIT 12-INCH BELT
(Based on Oil Country Belt 350 F.P.M. 1-Inch Wide)*

R.P.M.	Inch 12	14	16	18	20	22	24	26	28	30	32	34	36
140	15.1	17.6	20.1	22.6	25.1	27.7	30.3	32.8	35.2	37.8	40.4	45.9	48.5
150	16.2	18.9	21.6	24.3	27.0	29.7	32.4	35.2	37.7	40.5	43.3	48.9	51.8
160	17.3	20.2	23.0	25.8	28.8	31.7	34.5	37.5	40.2	43.2	46.2	52.0	55.9
170	18.3	21.4	24.5	27.5	30.5	33.7	36.6	39.8	42.7	45.8	49.1	53.0	58.3
180	19.4	22.6	25.8	29.2	32.4	35.7	38.9	42.1	45.2	48.5	52.0	58.1	61.5
190	20.5	23.9	27.4	30.7	34.9	37.7	41.0	44.5	47.7	51.2	54.9	61.1	64.3
200	21.6	25.2	28.8	32.4	36.0	39.7	43.2	46.8	50.2	54.0	57.8	64.2	68.0
210	22.7	26.4	30.2	34.0	37.7	41.6	45.5	49.2	52.7	56.7	60.7	67.2	71.3
220	23.7	27.7	31.7	35.6	39.5	43.6	47.6	51.5	55.2	59.4	63.0	70.3	74.5
230	24.8	28.9	33.1	37.2	41.4	45.5	49.7	53.9	57.7	62.0	66.5	73.4	77.7
240	25.9	30.2	34.5	38.9	43.1	47.5	51.9	56.2	60.2	64.8	69.4	76.4	81.0
250	27.0	31.5	36.0	40.5	45.0	49.5	54.0	58.5	62.7	67.4	72.3	79.5	84.2

*Indiscriminate use of this table is not recommended.

Now, if a belt speed of 1,000 r.p.m. is assumed, the load that the belt could transmit in each case can be figured as 3.03 horsepower per inch width for a tension ratio of 3.51, and as 3.90 horsepower per inch width for a tension ratio of 12.35.

Belt Horsepower

Most rules for figuring belt sizes, or for figuring the horsepower that a belt will transmit, are based on effective pull without consideration of tension ratio. Effective pull is dependent upon arc of contact, coefficient of friction and initial tension. Any rule for figuring horsepower, or necessary belt width, that does not take these variables into consideration is apt to lead to serious trouble.

Table 2 is part of a horsepower table taken from a reputable publication. It is assumed that it were necessary to purchase a new belt to run on a 14-inch pulley at 150 r.p.m. The table indicates that a 12-inch belt will transmit 18.9 horsepower. Based on an effective pull of 11 pounds per inch per ply, which is recommended by rubber belt manufacturers, a 12-inch, 6-ply rubber belt will transmit 12.2 horsepower on a 14-inch pulley at 150 r.p.m., or 5.7 horsepower less than shown by the table. The horsepower formula is:

h.p. = PS/33,000
Where P = effective pull ($T_1 - T_2$)
And S = belt speed in F.P.M.

14 Pi×150/12=550, 550×11×6×12/33,000=13.2

The horsepower that a belt will transmit can be determined if the arc of contact on the small pulley, the coefficient of friction, and the belt speed are known. The formula $T_1/T_2 = e^{Fa}$ allows the value of $T_1 - T_2$ to be computed, and from this value and the belt speed the horsepower can be determined. Let it be assumed that it is necessary to belt a drive in which a 14-inch pulley and a 132-inch pulley are on a 40-foot center. The arc of contact on the 14-inch pulley is 180°—2 (antitan 59/480), or 166°. Let it be assumed that a 6-ply rubber belt made with 32-ounce duck, is to be used, and that the coefficient of friction is 0.3[2]. Manufacturers of rubber belting recommend a maximum tension of 20 pounds per inch ply for this belt. Hence, the maximum tension for the drive will be taken as 6×20, or 120 pounds per inch width. That is to say, T_1=120. T_2 then, equals $120/e^{0.3\times166\times0.01745}$, or 50.3 pounds, and $T_1 - T_2$=120—50.3 or 69.7 pounds. If the 14-inch pulley operates at 150 r.p.m., the belt will transmit 550×69.7/33,000, or 1.06 horsepower per inch width. A 12-inch belt under these conditions would transmit 12×1.06, or 12.7 horsepower. A 12-inch, 7-ply belt, under the same conditions, would transmit 14.8 horsepower. It would be necessary to maintain initial tensions of 12(120+69.7)/2, or 1,138.2 pounds, and 12(140+58.7)/2, or 1,192.2 pounds, respectively, in order to transmit 12.7 horsepower with a 12-inch, 6-ply belt, and 14.8 horsepower with a 12-inch, 7-ply belt under the conditions assumed.

Transmission Design

The design of a belt drive for a pumping well requires consideration of the conditions under which the belt must operate. The desired pumping speed and the characteristics of the prime mover determine the transmission ratio. Let it be assumed that it is desired to design a belt for a well which is to pump 20 s.p.m., and which is powered with a 40 horsepower gas engine, the recommended operating speed of which is 175 r.p.m. The transmission ratio indicated is 8.75 to 1. The open drive with reversible clutch will be disregarded in favor of the countershaft drive which has a number of advantages. Since the drive is divided into two parts by the countershaft, it is necessary to so divide the 8.75 to 1 transmission ratio. This ratio is readily divided into a ratio of 2 to 1 from engine to countershaft, and into a ratio of 4.375 to 1 from countershaft to bandwheel. Appropriate pulley sizes for these speed reductions, which give an excellent overall ratio of 8.73 to 1, are:

Engine pulley	24"
Countershaft driven pulley	48"
Countershaft driving pulley	33"
Bandwheel	144"

Since the well's pumping load is exceeded by the starting load, and by such other loads as repair may require, the drive must be designed to carry them.

Let it be assumed, for purpose of calculation, that the maximum load the drive will have to carry for any appreciable time period is 40 horsepower at 143 engine r.p.m. Other assumptions are:

(a) That a 7-ply, rubber belt will be used.

(b) That the coefficient of friction is 0.30.

(c) That 32-ounce duck is used in the belt, giving a maximum allowable tension of 20 pounds per inch, per ply.

(d) That the center distance between engine pulley and countershaft driven pulley is 18 feet.

(e) That the center distance between countershaft driving pulley and bandwheel is 35 feet.

Engine to Countershaft Belt

The arc of contact on the engine pulley may be taken as 180°—2(antitan 12/216), or 174°. At 143 engine r.p.m. the

(Continued on Page 66)

[2]For an arc or contact of 166°, the coefficient of friction giving 11 pounds per inch ply with a tight-side tension of 20 pounds per inch ply is about 0.275.

DIESEL ENGINE DESIGN NEEDED FOR OPERATIONS IN OIL FIELDS

By Hollis P. Porter

The ideal oil field Diesel engine should be self starting, and for all sizes it should have a closed water circulating system, such as a coil in a cooling tower. A few of the smaller engines might use radiators. A radiator, however, is a source of great trouble on an oil field engine.

All engines used upon drilling wells and pumping wells must run at variable speeds. The slow speed when pumping or drilling should be half as fast as the high speed when cleaning out, bailing, ect. The engine should be controllable over a wide range of speed, so that it will not only do variable work, but also furnish more or less power depending upon the particular job it is doing.

Standardization Needed

There should be a standard cylinder size established. It is suggested that standard cylinder sizes be adopted for the following units:

	H.P.
One-cylinder engine	40
Two-cylinder engine	80
Four-cylinder engine	160
Six-cylinder engine	240

In considering these sizes one must keep in mind the range of service the engine is to perform. The single cylinder engine can be used for a pumping well, or a central power where the requirements range from 20 horsepower to 40 horsepower, and since the economy of the Diesel engine is very good at 50 per cent load the one size rated at 40 horsepower will serve equally well upon either a 20 horsepower or 40 horsepower load. Likewise the two-cylinder engine would be suited to any load from 40 horsepower to 80 horsepower, and thus we may continue to increase the number of cylinders to double the power capacity in each larger size until we arrive at a size as large as is practical and within the required limits as to being semiportable.

By standardizing upon cylinder sizes the added advantage of interchangeable parts will be gained; and thus a small stock of parts would be required for maintenance, and a company using this universal design will be saved untold expense, to say nothing of delays in operation often incurred due to confusion where parts are not standard. All the parts of a 40 horsepower engine, excepting the base and crankshaft, would be interchangeable with all the larger units, up to the 240 horsepower.

Weight of Engine

The weight of an oil field engine should not be more than can be hauled by a good heavy truck, so that it can take the load over rough roads to undeveloped locations.

Many of the makes of Diesel engines weigh from 300 to 400 pounds per horsepower. These are the bulky, slow speed engines used in central power houses. At the present time there is a rapid development toward lighter weight engines for marine use. There are several such engines designed which weigh 70 to 100 pounds per horsepower. Another development is the Diesel engine designed for trucks and tractors. There is one such engine built by a German manufacturer, which is said to weigh less than 25 pounds per brake horsepower. In "Oil & Gas Power" published by the American So-

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TRET-O-LITE

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OGJ-1-21-Gray

Deep Cut Made in Oklahoma Production Ba

Crude Oil Output Averaged Only 440,950 Bbls. per Day in Past Week. Corporation Commission Busy With Petitions

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

The daily average oil production in Oklahoma continues to decline along with the market demand. The estimated daily average output of the State during the week ending January 16 was 441,000 bbls., which is a decline of 40,000 bbls. from the previous week. Production and development continues at a normal rate in all the fields, with an increase in the shallow areas in the eastern part of the State. Creek, Okmulgee, Okfuskee and Muskogee continue active. Oklahoma City is still the most active area in the State, with Carr City, in Seminole County, next. The Fish Pool, in Hughes and Seminole Counties, is expected to continue active, and new developments are expected in the vicinity of the Carter Oil Co.'s wildcat well in Section 35-7-4, Pottawatomie County, which is showing oil.

Opposition to the changes in the production allowables in the Oklahoma City Field are to be heard January 26 before the Oklahoma Corporation Commission. It is expected that some objections may be presented. The principal complaints will be on the increase in the allowable of the underproduced wells in the field, which now amounts to approximately 4,300,000 bbls., the greater part of which accumulated during the voluntary shutdown prior to the military shutdown.

Some of the operators object to the penalty that wells, even with the allowables, are forced to take under the new Corporation Commission's order, which states that wells even with the daily allowables are now penalized by a lower current allowable in order to aid those operators who shut down prior to the military shutdown as a "sacrifice."

The reduction in the daily allowables of the field has practically forced some of the operators to almost shut down their wells since the order was made effective. During the week the Phillips Petroleum Co. did not produce for two days. A number of the smaller operators have their lease storage tanks full and have been unable to move the crude. Pipe line shipments remain at a low figure in the field. The total pipe line shipments from the Oklahoma City Field for the week ending January 2 were 940,384 bbls. and for the week ending January 9 were only 819,802 bbls., an average of 117,115 bbls.

Claims Unfair Treatment

According to Paul Walker, chairman of the Oklahoma Corporation Commission, the Oklahoma City Field has never been treated fairly by the purchasing companies. He states that inequalities exist, but the commission knows of no way to change the situation. "If the oil men have any suggestions on how we might go about changing the conditions, they will confer a great favor on the commission, and the State, by speaking out." he is quoted as saying.

A huge amount of the underage in the Siliceous lime zone was cut off by the commission's last order. By allotting 7,000 bbs. a day to wells in the lime area of the Oklahoma City Field, the umpire's committee reduced the total 514,822 bbls. of underproduced and under-run oil. The amount was divided among the different companies as follows: Indian Territory Illuminating Oil Co. lost 405,585 bbls.; Coline Oil Co., 36,881 bbls.; Mid-Kansas Oil & Gas Co., 42,421 bbls.; Prairie Oil & Gas Co., 20,381 bbls., and Shell Petroleum Corp., 8,964 bbls.

Under the present allowables the companies in the Siliceous lime zone are allowed to produce as follows: Indian Territory Illuminating Oil Co., 4,300 bbls.; Coline Oil Co., 450 bbls.; Shell Petroleum Corp., 750 bbls.; Prairie Oil & Gas Co., 1,400 bbls.; Mid-Kansas Oil & Gas Co., 100 bbls. The potential production of the 47 Siliceous lime wells on the latest tests was 24,690 bbls. under the corporation commission rulings.

Lease storage continues to increase in the Greater Seminole area despite the lower allowables which were effective January 1. At the corporation commission's hearing on January 26, a petition may be presented asking that the allowable of all fields in the State be reduced, as has been done in the Oklahoma City district.

During the week ended January 16, the pipe line shipments averaged 117,000 bbls. a day from the Greater Seminole area, while the daily average production from the entire area averaged 178,000 bbls. The difference of approximately 60,000 bbls. was put in storage. The shipments from the Seminole area totaled 87,600 bbls. daily.

It is believed that since the first of January to the tenth, the production has exceeded the pipe line shipments by approximately 36,000 bbls. a day in the Oklahoma City Field. In the Greater Seminole area the Gulf Pipe Line Co. put 6,000 bbls. of oil daily in storage during the last week, the Magnolia Petroleum Co. put 3,150 bbls., The Texas Company 9,300 bbls., and the Deep Rock Oil & Refining Co. 1,000 bbls.

Plugging Seminole Wells

The plugging of exhausted oil and gas wells in the Greater Seminole area continues at a steady rate, the last compilation showing 23 wells for the month of December. Of these three were plugged back to test the upper horizons. The wells abandoned were: Barnsdall Oil Co.'s Nos. 1 and 3 Factor, in the NW SE, Section 13-7-6; Carter Oil Co.'s No. 7 Tewe, SE cor. NW NE, Section 14-7-6; Reiter-Foster Oil Corp.'s No. 3 Bunyard, SW cor. NW SW, Section 14-7-6; Sinclair Oil & Gas Co.'s No. 8 Phillips, SW cor. SE SE, Section 5-7-7; Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 1 Carr, NW cor. NE NW, Section 9-7-7; Magnolia Petroleum Co.'s No. 1 P. Harjo, SW cor. NE NW, Section 5-7-8; same company's No. 1 Harjo-Reed, SE cor. NW NW, Section 2-8-5; Barnsdall Oil Co.'s No. 1 Fife, NE cor. NW, Section 14-8-5; Magnolia Petroleum Co.'s Nos. 2 and 3 B. F. Davis, NW cor. NE, Section 13-8-6; No. 1 Carolina, NE cor. SE, Section 15-7-8, and No. 4 B. Tiger, NW cor. SW, Section 32-8-8; Kingwood Oil Co.'s No. 1 Kirby, SE cor., Section 28-8-9; and No. 1 L. Lowe, SW cor. SE, Section 28-8-9; Sinclair Oil & Gas Co.'s No. 1 Morrison, SW cor. NE, Section 18-8-10; Amerada Petroleum Corp.'s No. 1 Killingsworth, SW cor. NE, Section 23-9-6, and No. 1 Hully, NW cor., Section 6-9-10; Darby Petroleum Co.'s Nos. 1 and 7 T. Harjo, NW cor. SE, Section 23-9-6; Sinclair Oil & Gas Co.'s No. 5 Pierce, NE cor. SE, Section 33-11-8, and Nos. 4 and 8 Hill, NW SW, Section 34-11-8.

Ramsey Sells More Leases

Ramsey Petroleum Co. has sold its undivided half interest in the No. 1 Messer, C SW SW, Section 32-14-3w, Oklahoma County, and in the block of leases surrounding the well, to the Mid-Kansas Oil & Gas Co. The well was completed more than a year ago and has been shut in, since. No consideration was given but the officials of both companies said that part was cash and the balance in oil to be produced.

The block consists of approximately 4,500 acres, in Townships 13-3w, 14-3w and 14-4w, all in Oklahoma County, with considerable of the acreage surrounding the discovery well. Leases included in the deal were W half NW, Section 20-13-3w, NW Section 17-13-3w, NE NE, Section 9-13-3w, SW Section 7-13-3w, S half SW, Section 5-13-3w, SE NW and SW and E half SE, Section 6-13-3w, N half NW, Section 5-13-3w.

Leases in Township 14-3w were, SE and W half SW, Section 31-14-3w, S half NW, Section 30-14-3w, S half NW, Section 28-14-3w, SW Section 20-14-3w, SE SW, Section 31-14-3w, NE SW, Section 31-14-3w, SW Section 28-14-3w, W half NW, Section 33-14-3w, N half NW, Section 29-14-3w, and W half SE, Section 32-14-3w.

In Township 14-4w, the leases were E half SE, Section 26-14-4w, SE and S half NE, Section 25-14-4w, W half SE, Section 13-14-4w, and SW Section 27-13-4w.

Since the discovery of the Oklahoma City Field the Ramsey Petroleum Co. and the Mid-Kansas Oil & Gas Co. have completed a number of transactions. Soon after the discovery well was completed in the Oklahoma City Field the Ramsey Petroleum Co. sold its interest to the Mid-Kansas Oil & Gas Co. Then the two companies jointly drilled the discovery well in the Nicoma Park district east of the Oklahoma City Field, after which the Mid-Kansas Oil & Gas Co. bought out Ramsey. The companies soooon after drilled a deep dry hole in Garfield County. These same companies own jointly properties in the Cement Field in Caddo County, where they recently completed the deepest hole in the United States. Ramsey also sold its half interest in the Wewoka Townsite property to the Mid-Kansas. The companies are jointly interested in other wildcat blocks.

Prospects of another wildcat test west of Edmond and northwest of the Mid-Kansas Oil & Gas Co.'s No. 1 Messer, were bright. E. Bernstein and others made a location for a test on the 20-

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WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW, Sec. 12-27-11w	S.D. 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	S.D. 5,502 ft.

ATOKA COUNTY

Campbell's No. 1 Baird, NW NE SW, Sec. 31-1-13	Rig.
Edgerton Edwards' No. 2 Rowland, SE NE NW Sec. 6-1-15	Rig.

BECKHAM COUNTY

Pattel Royalty's No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	Rig.
Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	T.D. 2,244 ft.; plugged back to 1,890-1,900 ft.; 1,500,000 ft. gas.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 32-11-22w	Waiting on cmt. to set 420 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-2-22w	S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	S.D. 3,575 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	S.D. 5,115 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	S.D. 1,115 ft.

CHEROKEE COUNTY

La Piere et al's No. 1 Woods, C SE SE Sec. 27-17-21	S.D. 1,504 ft.

COAL COUNTY

Radial Oil Co.'s No. 1 McGraw, NE NW Sec. 2-1s-8	S.D. 1,450 ft.
McCraw Oil Co.'s No. 1 Ward, NE SE, Sec. 35-1-8	Drlg. plug; showing 3,000,000 ft. gas 1,755-1,848 ft.; mudded off gas; S.D.; rig moved.
Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8	S.D. 760 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	S.D. 1,450 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	S.D. 5,850 ft.

GARVIN COUNTY

Malarnee et al's No. 1 Phillips, NE SW SE Sec. 24-2-2w	S.D. 4,830 ft.

GREER COUNTY

Dovell et al's No. 1 Capell, NW cor. Sec. 1-7-22w	5,000,000 ft. gas 1,455-65 ft. T.D. 1,760 ft.
French's No. 1 Murphy, SW NW Sec. 23-7-21w	S.D. 1,645 ft.

HASKELL COUNTY

Ault et al's No. 1 Harrison, CWL SE NE Sec. 14-9-19	S.D. 650 ft.
Ault et al's No. 1 Hall, NW SW SW, Sec. 14-9-19	S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW, Sec. 25-19-9	S.D. 200 ft.
Holden's No. 1 Phillips, SE cor. Sec. 3-9-19e	S.D. 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW, Sec. 10-9-19e	S.D. 2,387 ft.

KAY COUNTY

W. H. Atkinson et al's No. 1 Hayes, SE NE Sec. 24-28-3	Drlg. 1,545 ft.
Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1	Location.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2	S.D. 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w	Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE Sec. 3-7-18w	S.D. 320 ft.

LATIMER COUNTY

P. English's No. 1 Unknown, NW SE, Sec. 16-6-19	S.D. 1,542 ft.

LE FLORE COUNTY

Dowd et al's No. 2 Thomas, SE NE, Sec. 16-3-22	S.D. 1,100 ft.

LINCOLN COUNTY

Hilton Phillip's No. 1 Phillips, SW NW, Sec. 2-14-3	Fishing 4,840 ft.
Mote et al's No. 1 School Land, NW cor. Sec. 36-17-5	S.D. 1,160 ft.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE, Sec. 32-9-16	Drlg. 5,902 ft.; top Wilcox 5,443 ft.; top Siliceous 5,680 ft.

MURRAY COUNTY

Capitol Prod. Co.'s No. 1 Cutchall, SE NE, Sec. 6-1-2	S.D. 2,425 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE, Sec. 21-11-19	S.D. 1,011 ft.

OKFUSKEE COUNTY

Shepard et al's No. 1 Nevens, SE NW SW, Sec. 3-12-10	S.D. 3,638-90 ft.; Wilcox sand; hole full water.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w	S.D. 1,200 ft.

(Continued on Page 58)

Balancing Production in Kansas Fields

Some Opposition to Prorating Voshell and Eastborough, but Refiners Are Reducing Their Pipe Line Runs. Gas Wastage

By W. A. Spinney
Staff Correspondent, Kansas Fields

The daily average production of Kansas shows a decline of approximately 2,000 bbls. a day for the week ending January 16, and is below the 100,000-bbl. a day allowable. The daily average production during the week was approximately 98,350 bbls. a day. A further reduction in the daily allowables of several pools in the State is expected during the present week. Some of the wildcat wells in Ellsworth and Rice Counties are without pipe line connections and the Public Service Commission announced that Muth Brothers and Allison & Fitzwilliams' wildcat wells, which are now shut in, would be notified on what basis they will be allowed to produce. Muth Brothers' No. 1 Beyers, in Section 21-19-9w, Rice County, swabbed 134 bbls. in eight hours and Allison & Fitzwilliams' No. 1 Stratman, in Section 23-16-10w, Ellsworth County, has never had a production test.

After the meeting in Wichita January 14 of oil operators and members of the Kansas Public Service Commission a decision on the question of prorating the Voshell and Eastborough Pools was expected within 48 hours but no word was heard from the commission up to Monday morning. The Eastborough Pool in Sedgwick County was averaging around 10,800 bbls. a day and the Voshell Pool, in McPherson County, was averaging approximately 10,100 bbls. a day.

Some of the operators were against curtailing the Voshell Pool, while others were against restricting production in the Eastborough Pool. Some considered the Voshell Pool in the settled class and contended that both the Eastborough and Voshell Pools were yielding considerable water.

At the request of several operators, the commissioners promised to ascertain from the purchasing companies the market demand for Kansas oil for the next 60 to 90 days. The state oil advisory committee was requested by the commission to obtain the information.

Charge That Gas Is Wasted

Because of complaints that gas was being wasted in McPherson County wells, the commission announced that a hearing will be given within 30 days for the purpose of taking steps to conserve the State's natural resources, particularly in the Ritz-Canton district, where gas is believed to be escaping from wells that are being drilled to the deep pay horizon.

Further curtailment was announced January 16 by the Derby Oil Co. in the following statement: "Due to market and storage conditions, pursuant to our conversation of January 14, we find it necessary to curtail our takings in the Eastborough Pool, in Sedgwick County, to a total of 1,000 bbls. a day, and in the Voshell Pool, in McPherson County, to 500 bbls. a day, and our scattered connections over the balance of the State to a total of 1,000 bbls. a day, making our total nominations for all Kansas pools 2,500 bbls. daily, or a cut of 4,500 bbls. a day from our average daily purchases. This curtailment to be effective for a period of 30 days from January 15 at 7 a. m.

Approximately 30 days ago the Derby Oil Co. was taking 5,000 bbls. a day from the Eastborough Pool. At that time the company reduced its purchases 40 per cent. The White Eagle Pipe Line Co. also reduced its purchases 40 per cent about 30 days ago.

New Operations

Cowley County had three new operations last week all on the Winfield townsite, McPherson County, two, and Ellsworth, Coffey, Sedgwick and Greenwood Counties each had one.

Gypsy Oil Co.'s No. 2 Enderud, NW cor. NE SW, Section 16-35-3w, Sumner County, was opened for a production test and flowed at the rate of 2,435 bbls. a day after being pinched in on account of proration for several months. The well was completed in July, 1930, when it flowed 1,548 bbls. of oil the first 24 hours, from the Wilcox sand. The well for some time has been pinched to 100 bbls a day. The big production of this well is expected to bring increased activity to southern Sumner County.

Three new wells were preparing to start in the Eastborough Pool, in Sedgwick County to test the deep pay horizon. Two are old wells drilling deeper. These are the Derby Oil Co.'s No. 1 Eastborough, and Fisher & Lauck's No. 3 Trustee, both located in Section 19-27-2. Magnolia Petroleum Co.'s No. 7 Wheeler, NE cor., Section 19-27-2, a twin well will be drilled to the deep pay.

In the gas area of eastern Rush County where five gas wells have been completed with an open flow of approximately 60,000,000 feet per day, two new operations were announced during the week. Morgan & Flynn's No. 1 Budde, C NE, Section 16-18-16w, is a location waiting for the roads to dry out so the rig can be moved. The location is west of the producing gas wells. W. H. Skelton and others are building a rig for No. 1 Brock-Hartman, in C NW, Section 4-18-16w.

The area in the vicinity of Burrton in eastern Reno County, where the Shell Petroleum Corp. and Continental Oil Co. have a combination oil and gas well, is expected to become active later in the year. Many of the leases in the area will expire within a few months and it may be necessary to protect these leases by drilling tests. The Shell-Continental's No. 1 Blake, in Section 23-23-4w, the discovery well, is good for 165 bbls. of oil and 17,000,000 feet of gas a day from the chat formation.

J. F. McCole and others' No. 1 Severn, NW cor. SW, Section 28-19-1w, is a new location south and east of production in the Ritz-Canton Pool, in McPherson County. It will extend production a mile southeast if it makes a commercial producer.

Far Western Wildcat

An interesting wildcat was drilling in Finney County in the western part of the State. This is National Refining Co.'s No. 1 Wells, C SW, Section 13-23-30w, drilling at 3,450 feet. The owners advise that the test is running favorably on structure and is logging approximately 150 feet higher on the Chase lime than other tests drilled in the vicinity. The Chase lime was found at 2,700 feet. The test may be drilled to the 8,000-foot level if commercial production is not found at shallower depths.

In view of the fact that 90 per cent of the acreage in Barton County is leased for oil and gas and that during the last few months most of the land has been leased in Stafford, Rice and Ellsworth Counties, an active drilling campaign is expected to develop during the year.

Increased activity has been under way in the area since the first of the year. Some of the new developments include Magnolia Petroleum Co.'s No. 1 Boyer, C SW SW NW, Section 7-20-10w, Rice County, a location east of Hilligoss and others' No. 1 Isern, discovery well in Section 12-20-11w, in the southeastern part of Barton County. Preparations are being made to resume operations at Skelton Oil Co.'s No. 1 Ott, C SE SE, Section 16-19-14w, Barton County, which has been shut down at a total depth of 3,375 feet. Gypsy Oil Co.'s No. 1 Steckel, C NE NE NW, Section 31-19-10w, is spudding. It is located about 3 miles northeast of Hilligoss and others' well.

Since oil was discovered in the southwestern part of Rice County about two and one-half years ago, 22 producing wells have been completed in the area and several dry holes. The area covered by this development is approximately 65 miles in length across parts of Rice, Stafford, Barton and Ellsworth Counties.

These wells are practically all one well pools with the exception of the Schurr Pool in Rice County which has 12 completed wells. These wells are all producing from the Silicious lime at approximately 3,300 feet. The other producing formations, including the chat, Viola lime, Hunton lime and Simpson sand seem to have been pinched out above the Silicious lime.

The Gypsy Oil Co. has been acquiring acreage in this area from Henry Rosenthal, carrying him for one-quarter interest and agreeing to drill a well on each piece before June, 1932. Some of the acreage includes N half NW, Section 6-17-9w, and SW Section 31-16-9w, Ellsworth County.

The Gypsy Oil Co. also bought the S half NW, Section 6-17-9w, from H. H. Blair. Atlantic Oil Producing Co. purchased the S half SE, Section 29-16-9w, both tracts being located in Ellsworth County.

Skelly Oil Co.'s No. 1 Miles, NE cor., Section 30-27-10w, a wildcat in Kingman County, was drilled deeper to a total depth of 3,505 feet in the Kansas City lime, where a showing of water was found. The owners are plugging the test back to the Lansing lime at 3,385 feet, where it is making 255 bbls. of oil a day. The company started to drill the well to the Silicious lime but decided to let this well produce from the Lansing lime and drill the next test to the Silicious lime.

Appeal for Stripper Wells

The Kansas Public Service Commission has appealed to six companies for further co-operation in providing a market for the production from the stripper

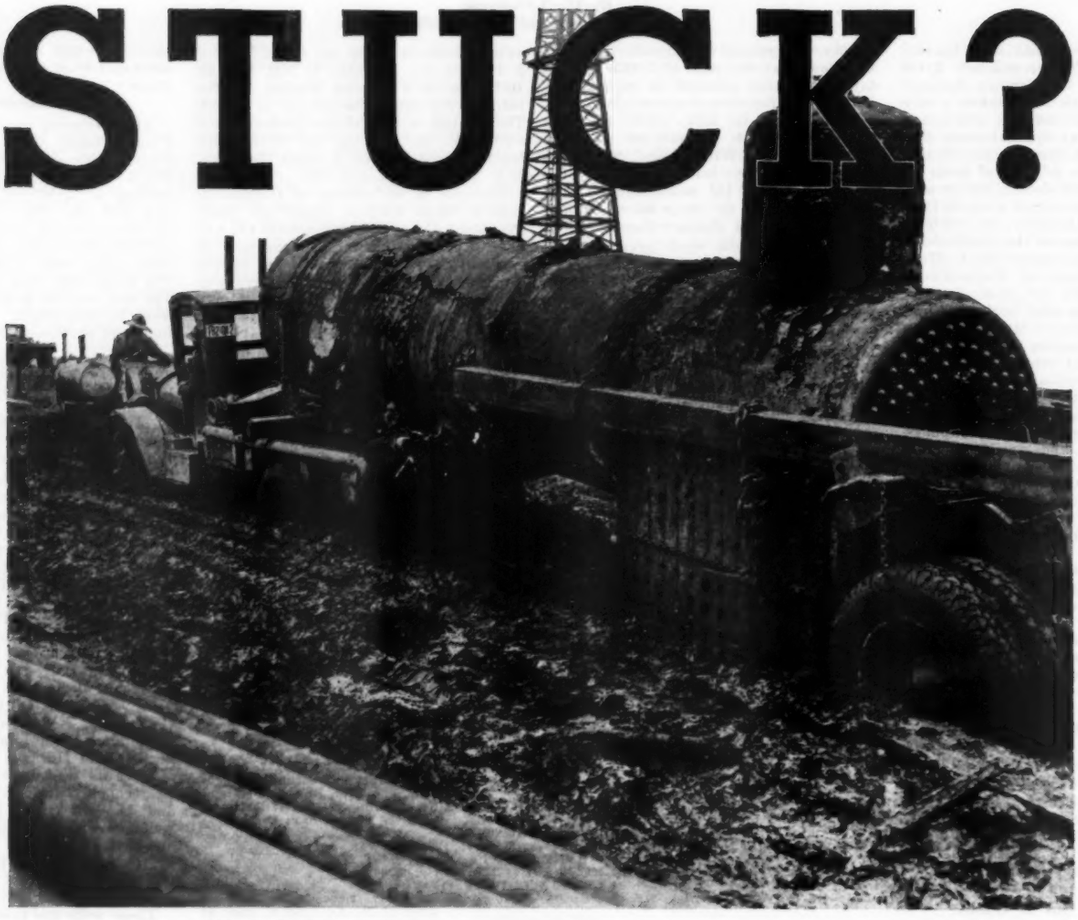
(Continued on Page 64)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Syndicate Oil Co.'s No. 1 Boretz, NW SE SE, Sec. 3-18-12w	U.R. 3,523 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE, Sec. 16-19-14w	S.O. 3,226-28 ft.; 3,304-10 ft. wtr. S.D. 3,375 ft.
McCool et al's No. 1 Tsarn, NW SE NE, Sec. 12-20-11w	Show oil 3,313-29 ft.; pumped 800 bbls. per day.
DICKINSON COUNTY	
Severe et al's No. 1 Lavengood, NE SW, Sec. 13-13-2	S.D. 4,752 ft.
ELLSWORTH COUNTY	
R. Gear et al's No. 1 Sanberth, C SW SE, Sec. 29-16-9w	Shut down.
Alyward et al's No. 1 Stratman, SE NW SE, Sec. 1-17-10w	Siliceous 3,255-71 ft.; 117 bbls. 2 hrs.; shut in; estimated 2,000 bbls.; no pipe line connections.
Aladdin Pet.'s No. 1 Stoddenberg, C SW, Sec. 22-16-10w	Siliceous lime 3,322-47 ft; estimated 1,500 bbls. a day; shut in.
FINNEY COUNTY	
National Ref. Co.'s No. 1 Wells, C SW Sec. 13-23-30w	Drlg. 3,450 ft.
HARVEY COUNTY	
Liggett et al's No. 1 Davis, SW SE NE, Sec. 7-24-1	Drlg. 2,200 ft.
KINGMAN COUNTY	
Skelly Oil Co.'s No. 1 Miles, NE cor. Sec. 30-27-10w	1,635-40 ft. 2,000,000 ft. gas; at 2,005-20 ft., 6,000,000 ft. gas; at 1,133-42 ft., 3,000,000 ft. gas; showing oil 3,385 ft.; T.D. 3,441 ft.; S.D. estimated at 600 bbls. a day.
Panhandle Drlg. Co.'s No. 1 Wetheral, C SE NW SW, Sec. 20-28-10w	Rig.
McPHERSON COUNTY	
Twin Drlg. Co.'s No. 1 Farver, SW SE, Sec. 16-20-1w	Drlg. 1,620 ft.
Shell Pet. Corp.'s No. 1 Johnson, SE SW SW, Sec. 35-19-3w	Top chat 2,984-94 ft.; show gas.
MORTON COUNTY	
Hydraulic Oil Co.'s No. 1 State Land, NW SE, Sec. 22-34-43w	T.D. 3,640 ft.; temp. abd.
Allender et al's No. 1 Wycoff, C SW SE, Sec. 5-17-7	S.D. 105 ft.
Urschel et al's No. 1 Bersuch, NW SE NW, Sec. 10-17-7	Fishing 915 ft.
Hankerson et al's No. 1 Cessman, SW SE, Sec. 24-16-9	S.D. 2,625 ft.
NORTON COUNTY	
Richards et al's No. 1 Colby, Sec. 17-4-21w	Rig.
OSAGE COUNTY	
Briggs & Smith's No. 1 Wood, SE NW, Sec. 21-14-15	S.O. 2,190-2,200 ft; S.D.
RAWLINS COUNTY	
J. G. Durham et al's No. 1 Weaver, SE cor. Sec. 3-2-35w	S.D. 3,925 ft.
RICE COUNTY	
Gypsy Oil Co.'s No. 1 Steckel, C NE NW, Sec. 31-19-10w	Rig.
Cress et al's No. 1 Sharp, SE NE, Sec. 13-20-10w	Show oil 3,107-15 ft.; Siliceous at 3,330-36 ft.; estimated 1,500 bbls.; shut in.
RUSSELL COUNTY	
J. Brennan's No. 1 Waly, CNL E½ NW, Sec. 29-13-11w	Rig.
T. Palmer et al's No. 1 Pasek, C SE, Sec. 3-14-11w	Drlg. 300 ft.
RUSH COUNTY	
Dewey & Mitchell's No. 1 Greenawalt, C SW, Sec. 17-19-16w	Show of oil in Conglomerate 3,835-80 ft.; plugged back to 3,825-40 ft.; estimated 150 bbls.; S.D.
Skelton et al's No. 1 Brock-Hartman, SW SE NE Sec. 4-18-16w	Rig on ground.
SALINE COUNTY	
Twin Mounds Oil Co.'s No. 1 Weis, C W½ NE NW, Sec. 20-13-4w	S.D. 2,710 ft.
SHERIDAN COUNTY	
Flo et al's No. 1 Shoemaker, SE SW, Sec. 27-7-26w	Drlg. 4,040-45 ft.; wtr.; fishing.
STAFFORD COUNTY	
Rosenthal, Stanolind and Amerada's No. 1 Gray, C NE, Sec. 11-24-31w	S.O. 3,829 ft.; shut down 3,935 ft.; 500 ft. oil in hole.
STEVENS COUNTY	
Argus Prod.'s No. 3 Christopher, C NE, Sec. 10-33-39w	S.D. 5,521 ft.
SUMNER COUNTY	
Tighe et al's No. 1 Thieson, C NW SE SE, Sec. 22-34-2	S.G. 2,808-15 ft.; abnd.
Trees Oil Co. and Shell's No. 1 Springate, NE SE SW, Sec. 6-34-2	S.D. 2,560 ft.
Spencer et al's No. 1 Penwell, NW SE NE, Sec. 16-3-3	S.D. wtr. 4,480-4,515 ft.
WASHINGTON COUNTY	
Sincox et al's No. 1 Penwell, NW SE NE, Sec. 16-3-3	S.D. 1,730 ft.

STUCK?



NO, the driver even dared stop right in the mud-hole to let the photographer shoot this comparison between wheels that sink and tracks that don't! Stopped with full knowledge that his "Caterpillar" track-type Tractor could immediately pick up the load and-walk ahead on this typical oil-field "road"! Confidence in their power and traction has put whole fleets of "Caterpillars" into the world's oil-fields.

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TEN	$1100	THIRTY	$2375
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TRACTOR

Find More Dry Holes Than Producers

Unproductive Week in North Louisiana, Arkansas and Mississippi Districts. Unusual Number of Completions

By J. R. Crumpton
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Jan. 18.—The dry holes greatly exceeded the producers from the largest number of completions reported for some time and with every district in the division represented. Several of these failures were rather disappointing, not as rank wildcats in virgin territory, but as possible extensions to already proven areas. In the Zwolle area of Sabine Parish, two tests failed to extend the hot spot in Section 1-7-13, where seven consecutive producers were completed without a dry hole. These semi-wildcats were southwest of the producing area toward Blue Lake production, and further confirmed the fact that the Zwolle Field proper and the original pool in that area, Blue Lake, would not be connected. It also further confirmed past history of Zwolle, that it is made up of separate pools of limited productive area with much dry acreage between these hot spots.

Zwolle Area

On the western flank of the field, W. F. Lacey's No. 1 Parie, NE cor. SW SE Section 2-7-13, tested salt water and was abandoned at 2,575 feet. The test is three-fourths of a mile southwest of the nearest production. W. M. Coates' No. 1 Hale, in Section 1, the latter a one-half mile extension of the original pool in that direction. One-quarter mile north of the Lacey well, Smitherman & Grigsby's No. 1 Martinez tested salt water and was abandoned at 2,520 feet. As several wells from this part of the field are producing from the marl at less than 2,300 feet, the Smitherman well was given a thorough test around this depth, but tested dry at 2,260 and again at 2,280 feet. In the southeast part of the field, within the lines of production in Section 2-7-11, the Crescent Drilling Co.'s No. 2 McCormick was a bitter disappointment, being abandoned as dry at 2,436 feet. This test was a northwest offset toward the field to the same company's No. 1 Byrd in the northwest corner of Section 12-7-11, and which was completed in October with an initial flow of 500 bbls. daily. Another failure to the north of this eastern pool was M. J. Kissick's No. 1 Brown Lumber Co., Section 1-7-11, one-half mile northeast of the Merritt discovery well, a 1,500-bbl. gusher. The Kissick test was dry and abandoned in chalk at 2,720 feet.

Along with the failures of this area, there was also a bright spot with the successful completion of Lyons & Neely's No. 1 Clanan, near the center of Section 14-7-11. This test was completed flowing 65 bbls. daily through 2-inch tubing from a total depth of 2,539 feet. The new producer is an extension of 2 miles south of the eastern pool, and is within 1½ miles of the town of Many. No doubt this well will open up another pool with a probable limit of 10 to 12 wells developing its production. Zwolle furnished one other producer, the Ohio Oil Co.'s No. 13 Bowman-Hicks, Section 35-8-12, in the old original pool of the field, pumping 25 bbls. daily from 2,515 feet. The Bull Bayou area of Red River Parish furnished the only other well in the district, a small pumper of 10 bbls. daily. The well was the Mack Jourdan Co.'s No. 1 Lockett, Section 32-13-10, completed from a total depth of 2,750 feet.

Gas Completions

There were three gas wells completed from three states in the division to help out an otherwise disastrous week's results. The Trinity gas area, 2 miles south of the Bellevue shallow field in Bossier Parish, came back into the successful completion column after several months of inactivity. H. I. Morgan's No. 1 Smith, Section 22-19-11, had an estimated initial flow of 25,000,000 feet of gas from a depth of 1,770 feet. Twelve feet of pay sand was encountered from 1,758 feet to the total depth. The new gasser from this shallow Trinity area is located in the same section with several wells drilled by this operator on the Kendrick lease to the west. Another good gas well was reported from the Hinds County area of the Jackson Field in Mississippi with the completion of Millsaps College's No. 1 fee, Section 34-6n-1e, with an estimated flow of 35,000,000 feet of dry gas from 2,503 feet. The well is located on the Millsaps College campus in the northern part of the field, within the city limits of Jackson. It is understood that the United Gas Public Service Co. contracted the drilling operations with an agreement to take production from the well to cover the cost. Harrison County, East Texas, furnished the other gasser, the Calatex Oil & Gas Co.'s No. 5 Agurs, John Womack Survey, having an initial flow of 4,000,000 feet from a total depth of 2,957 feet. The well is in already proven territory.

Dry Holes

There were four other dry holes reported, two from Cass County, East Texas, that have been temporarily abandoned for several months. The Everts Drilling Co.'s No. 1 Whittington, L. Strong Survey, was abandoned at 3,992 feet, and George McKamie abandoned his No. 1 R. E. Hall, H. Bucker Survey, at 4,195 feet. This test is reported to have encountered the top of the Georgetown lime, a distinct dry marker in this area, at 4,186 feet. A test in Nachitoches Parish, North Louisiana, that has recently shown encouraging results, was abandoned during the week, although the operators state that operations on the test will be resumed later on. The wildcat, the Mid-West Production Co.'s No. 1 H. Brown, Section 34-11-10, recently had a gas show at the top of the Ozanes at 1,958 feet. Six-inch casing was set at 1,908 feet and a test made, with a small show resulting. The hole was deepened to 2,590 feet, where it was abandoned in black shale and shells. The base of the chalk in the test is reported at 1,957 feet. In the Urbana district of Union County, Arkansas, a test several miles southeast of production failed to get production in the upper pay zone. Modisett and others' No. 1 Union Saw Mill Co., Section 13-18-13, tested six fourbles of salt water with a show of oil from 2,266-80 feet and the well was abandoned in salt water at 2,520 feet. The best producing horizon of this area is around the 3,600-foot level.

Wildcats

Wildcats in this division have slowed down to a minimum during the past few weeks, most of the operations being carried on in semiwildcat territory in the immediate vicinity of proven areas. In Panola County, East Texas, in the Bethany gas district, the United Gas Public Service Co. has plugged back to 3,650 feet on its No. 11 Werner, D. B. Lewis Survey, after reaching a total depth of 5,844 feet without results. The test is 2 miles east of other Trinity gas wells in that area which are producing from the 4,700-foot level. Reports from the well give the top of the anhydrites at 4,102 feet and the base at 4,625 feet. A drill stem test from 4,630-95 feet was dry and no other interesting show was encountered to the total depth. The best show in the well occurred at 3,665 feet where gas tried to blow out from lime with sandy shale above. Nine-inch casing is set at 3,526 feet and it is presumed that the operators will make a test of this upper gas show. The United North & South Production Co.'s No. 1 Windham, A. H. English Survey, in the Shelbyville area south of Center in Shelby County, is reported to be making some gas with a show of oil through heavy mud from a total depth of 3,422 feet. A previous offset to this wildcat had a good show around the same depth during last year, but did not develop into a commercial well.

Daily Average Runs

The Caddo, light, declined 755 bbls. in its daily average runs during the week to more than offset the slight gains made in other fields, resulting in North Louisiana fields showing a net decrease of 500 bbls. daily. The Arkansas fields were upon a standstill losing only 5 bbls. from last week in the daily average runs. The daily average runs from the several pools were:

NORTH LOUISIANA	
Caddo, light	5,020
Caddo, heavy	1,445
Cotton Valley	490
DeSoto and Red River	2,030
Elm Grove	345
Haynesville	5,020
Holly	335
Homer	2,840
Pleasant Hill	350
Sarepta-Carterville	825
Urania	3,240
Zwolle	6,770
Total North Louisiana	28,710
Total previous week	29,210
Decrease	500
ARKANSAS	
Champagnolle	1,915
El Dorado	3,145
Lisbon	570
Nevada	1,260
Smackover, light	3,000
Smackover, heavy	23,410
Stephens	670
Urbana	280
Total Arkansas	34,250
Total previous week	34,255
Decrease	5
Total both states	62,960
Total previous week	63,465
Decrease	505

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYLLES PARISH

Company, farm and location— Remarks:

Stauffer & Eshleman's No. 1 Caruth, Sec. 40-1n-7e.....Derrick.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14 .....W.O.S.R. 2,890 ft.

Dr. W. N. Hankin's No. 1 Newell, 300 ft. S and W, NE cor., Sec. 12-19-11 .....Drlg. 1,750 ft.

H. I. Morgan's No. 1 Smith, Sec. 22-19-11, 1,520 ft. N, 400 ft. W, SE cor. .....D.S. test 25,000,000 ft. gas 1,770 ft.

D. L. Perkins' No. 1 Ardis & Co., 1,127 ft. N, 198 ft. E, SW cor., Sec. 13-15-11 .....S.W. and abd. 1,004 ft.

CADDO PARISH

Louana O. & G. Co.'s No. 1 Hammock, Sec. 32-19-6, 660 ft. N and W, SE cor. .....Rigging up.

CALDWELL PARISH

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E, NW cor. NE SE, Sec. 17-14-4 .....S.D. 110 ft.

Hudson et al's No. 1 Burton, Sec. 35-12-2e.....S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6 .....T.A. 3,097 ft.

DE SOTO PARISH

E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15 .....S.D. 3,038 ft.

Rellitt Oil Co.'s No. 1 Ganno hrs., 300 ft. S and E, NW cor. NW NE, Sec. 12-11-16 .....S.D. 1,965 ft.

A. R. Smith's No. 1 Horn, Sec. 16-12-16, NE cor. Sec. ..Rigging up.

Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13 ..S.D. 1,266 ft.

MOREHOUSE PARISH

United Gas Public Service Co.'s No. 2 Sandidge, Sec. 11-20n-4e, 656 ft. S, 1,332 ft. W, NE cor. NW .....S.D.; high wtr. 2,132 ft.

(Continued on Page 55)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

CADDO PARISH—PINE ISLAND

Company, farm and location— Remarks:

Shreveport Oil Corp.'s No. 2-B Muslow, 1,000 ft. S, 300 ft. E, NW cor., Sec. 32-21-15 .....S.D. 2,135 ft.

Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15 .....S.D. 2,275 ft.

MOREHOUSE PARISH

Southern Carbon Co.'s No. 57 fee, Sec. 9-20-4e, 660 ft. N, 1,317 ft. E, SW cor. .....Rigging up.

OUACHITA PARISH

Carbon Cons.' No. 7 Guthrie, Sec. 50-20n-4e, 5,263 ft. N, 7,475 ft. W of cors. of Secs. 25, 26 and 49, in Sec. 50 .....Location.

RICHLAND PARISH

United Gas Public Service Co.'s No. 1-B Alice Purvis, Sec. 34-17-6, 81 ft. N, 599 ft. W, of center of Sec. .. Location.

SABINE PARISH—ZWOLLE

Crescent Drlg. Co.'s No. 2 McCormick, Sec. 2-7-11.....Dry and abd. 2,545 ft.

Lyons & Neely's No. 1 McClanahan, Sec. 14-7-11, SE cor. SE NW .....Flowing 65 bbls. 2,539 ft.

Ohio Oil Co.'s No. 13 Bowman-Hicks, Sec. 35-8-12, 2,310 ft. N, 525 ft. W, SE cor. Sec. .....Pumping 25 bbls. 2,513 ft.

Pelican Nat. Gas Co.'s No. 11 La. Long Leaf Lbr. Co., Sec. 10-7-11, 330 ft. N and W, SE cor. NE NW ....1,000 ft. oil in hole 2,592 ft.

Smith et al's No. 1 Hale, Sec. 1-7-13, 330 ft. S and W, NE cor. NW SE .....W.O.S.R. 2,055 ft.

A. F. Tarver's No. 2 Cutrer, Sec. 12-7-11, 330 ft. S and W, NE cor. NW NW .....W.O.S.R. 2,550 ft.

O. J. Baird's No. 1 Duggan, Sec. 14-7-11, 328 ft. S, 648 ft. E, from C of Sec. .....S.D. 2,545 ft.

Ray Baker's No. 1 Sabine Lbr. Co., Sec. 1-7-12 .....W.O.S.R. 2,548 ft.

W. M. Cates' No. 1 Bowman-Hicks, 330 ft. S and W, of C, Sec. 3-7-12 .....W.O.S.R. 2,441 ft.

(Continued on Page 55)

Extend New Mexico Proration for Year

Awaits Signature of Governor. New Operation in Greasewood Area, Colorado. Twenty Gas Wells to Be Drilled in Cut Bank, Montana

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Jan. 18.—Operators in the Hobbs Pool in New Mexico and Comm. J. F. Hinkle, of the land office, have signed an agreement extending proration for a year, with the privilege of withdrawing at the end of six months. It awaits the signatures of the governor and state geologist. Hobbs' allowable outlet for the first half of January was reduced 2,000 bbls. daily to 35,182 bbls. Only two wells were reported active in Lea County. Three sulphur tests in Eddy County have been completed as water wells.

In Colorado only one well is active in the Greasewood area. The Prairie Oil & Gas Co.'s No. 1 O'Toole, 10 miles to the northwest, is shut down after reaching what is believed to be the Muddy, and its No. 1 Mortier, 6 miles to the southeast, is being abandoned. Several new locations in Greasewood are in the offing. The Raddatz Corp.'s No. 2 Fagan, in the Berthoud Field, was dry in the Muddy and abandoned. One new operation in that field was reported.

In Wyoming, two tests in Natrona County, one at Powder River, and the other on the Haygood Dome, were abandoned.

In Montana the Carbon Oil & Gas Co.'s No. 1 Armstrong, which extends the Dry Creek Pool a mile to the east, filled 2,000 bbls. of storage in 16 hours. The Ohio Oil Co.'s No. 1 Chapman, a mile northwest of production, is another important extension. L. B. O'Neil is scheduled to drill 20 wells in Glacier County. A 2,000,000-foot gas well was completed and one well was abandoned in the Kevin-Sunburst Field.

Two wildcats in Utah, in Washington County, are reported to have encountered saturated sands, but confirmation or details are lacking.

NEW MEXICO

Representatives of operators in the Hobbs Pool and of the state government met at Santa Fe the past week to discuss the continuation of proration in that field during 1932, the old agreement for 1931 having expired on January 10. A new agreement extending proration for a year, instead of six months as heretofore, was submitted. It permits any operator, or the state, to withdraw at the end of six months if it is so desired. No maximum or minimum production figures were incorporated in the agreement as some hold this might be construed as an attempt to fix prices. The new agreement was signed by the operators and James F. Hinkle, commissioner of the New Mexico land offices, and is awaiting the signatures of Governor Seligman and Dr. E. H. Wells, the state geologist. E. G. Allen, of Dallas, chairman of the executive committee for the Hobbs Pool, led the oil men in the discussion, and Van Welch, of Artesia, represented the governor. Commissioner Hinkle, Doctor Wells, C. G. Staley, umpire for the Hobbs Pool, and about 30 representatives of the oil companies attended the meeting.

The plan for shutting in Hobbs wells one day each week has been abandoned as some of the operators were not in favor of it and it did not work out satisfactorily. However, the allowable outlet for the first half of January was placed at 35,182 bbls. daily, a decrease of 2,000 bbls. from the allowable outlet for the last half of December. The potential as of January 1 was put at 1,152,837 bbls. daily from 149 wells on 131 units. Pipe line runs from the field in December were 1,114,698 bbls., bringing the total since proration went into effect up to 18,424,631 bbls.

Oil royalties received by the state of New Mexico in 1931 amounted to approximately $325,000, bringing the total since July 1, 1928, up to approximately $800,000.

Lea County

Only two wells were reported active in Lea County the past week. Midwest Refining Co.'s No. 11 State, C NE NW Section 4-19-38, was drilling at 2,754 feet, and Continental Oil Co.'s No. 6-B State, C SE SW Section 33-18-38, was ready to spud. Continental's No. 5-A State, C NW SE Section 33-18-38, which last week was reported a completion, was given a potential of 1,620 bbls. daily in an official gauge for proration.

Eddy County

R. D. Compton's No. 1 Compton, NE NW NE Section 8-18-27, Artesia area, is bottomed at 580 feet in gypsum, shell and red rock and is underreaming 10-inch to make a water shutoff at 480 feet.

Flynn, Welch & Yates' No. 61 State, SE NE NW Section 32-18-28, is drilling at 975 feet in gypsum, red rock and blue shale conglomerate, and its No. 1 State (Paul), NE cor. SE Section 26-20-27, to the southwest of the Getty Pool, is building road and moving in materials.

Leonard & Levers' No. 6 State, C NW Section 28-17-29, Maljamar area, is drilling at 2,016 feet in reddish brown shale.

Three core tests drilled by the Union Sulphur Co. in the Cottonwood district, to the northwest of Artesia, have been completed as water wells. All had shows of dead oil at 790-800 feet. Their locations and total depths are as follows: No. 1 Ault, SW cor. SE Section 7-16-25, total depth 1,140 feet in lime; No. 1 Harlan, NW SW NE Section 7-16-25, total depth 1,546 feet in lime; and No. 1 Watson, N.. cor. NW Section 8-16-25, total depth 2,096 feet in lime.

Chaves County

Warman Oil Trust's No. 1 Evans, N half Section 15-14-25, Blackdom district, is resuming at 680 feet.

De Baca County

Matador Oil Co.'s No. 1 Woods, NE SW SW Section 6-4n-20, Salada Creek, is shut down for repairs at 3,305 feet in quartz sand.

Bernalillo County

Norrins Realty Co., Inc.'s No. 1 Pajarito grant, NW cor. NE Section 22-9n-1e, is drilling at 1,200 feet in conglomerate, with 12½-inch at 1,050 feet.

Luna County

Angelus Oil & Mining Co.'s No. 3 State, C NW SE Section 20-21-10w, Deming district, is bottomed at 6,155 feet and is trying to cement pipe at 4,275 feet.

Guadalupe County

New Mexico Producing & Refining Co., Ltd.'s No. 1 McMillan, SW cor. Section 24-5n-16, Mesa Leon district, is drilling at 3,875 feet and has not yet reported picking up the Pennsylvanian.

San Juan County

Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor. Section 20-28-10, Kutz Canon district, is shut down at 3,740 feet until the weather improves.

Rio Grande Development Co.'s No. 2 Lanier, SE cor. NW Section 9-29-11, Bloomfield district, is shut down at 1,771 feet.

Dorothy Oil Co.'s No. 2 Goede, NW SE Section 29-30-9, Blanco district, mudded in at 1,750 feet and suspended operations indefinitely.

McKinley County

J. W. Halsell's No. 1 Fairchild, SW cor. Section 4-18-4w, Seven Lakes district, heretofore reported shut down at 2,050 feet, is an error. The well has never commenced drilling. Halsell's No. 1 Santa Fe, NW SW SW Section 17-18-9w, the deep test, is shut down at 3,253 feet in shale.

San Juan Coal & Oil Co.'s No. 1 Santa Fe, NW SE SE Section 27-18-9w, is shut down at 2,110 feet in shale.

H. L. Williams' No. 1 Santa Fe, S half NW Section 19-18-8, Hospah district, is shut down indefinitely at 1,850 feet.

Rio Arriba County

Governador Dome Oil Co.'s No. 1, NW NE NE Section 15-29-7w, is drilling at 1,945 feet and carrying the 5⅞-inch at 1,900 feet.

Torrance County

Estancia Valley Carbon Dioxide Development Co.'s No. 2 De Hart, NW SE SW Section 12-7n-7e, is reported to have drilled to 1,440 feet and to have plugged back to 1,270 feet and completed as a gas well at 1,210 feet, gauging 140,000 feet of gas showing 97.8 per cent carbon dioxide gas with a shut-in pressure of 452 pounds.

COLORADO

Weld County

Drilling operations in the Greasewood area are down to one active well, this being Continental Oil Co.'s No. 1 Gadbois, C SE SW Section 24-6n-61, which has been held up by a bad fishing job. The old depth of the hole was 6,593 feet, less than 100 feet off the Muddy sand. The tools have been drilled by and new hole is being made at 6,595 feet. This well is half a mile south of No. 1 Patterson, the discovery well.

Greeley Oil Co.'s No. 1 Gadbois, C NW NW Section 25-6n-61, to the southwest of the Continental well, continued its bailing and swabbing the past week from the Muddy sand at a total depth of 6,698 feet. The first time the swab was run it lowered the oil 150 feet from the former level of 5,700 feet. The second time the oil again was lowered, but when the swab was run the third time it met the oil coming up the hole and the well made a head lasting more than an hour in which it put 140 bbls. into the tank. The next day the oil stood 1,200 feet in the hole and 35 bbls. were swabbed out. The following day 30 bbls. were recovered and the oil was exhausted. Considerable sand and silt has accumulated in the bottom of the hole, rising above the best saturated part of the sand and cleaning out is now in progress. It looks as if the well will be a small producer.

Prairie Oil & Gas Co.'s No. 1 O'Toole, C SE NE Section 33-7n-62, 10 miles to

TURNER VALLEY PIPE LINE RUNS HIGHEST SINCE MONTH OF JULY

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Jan. 16.—Turner Valley pipe line runs for December showed an increase of 3,940 bbls. over November, when deliveries amounted to 69,082 bbls. The December total of 73,022 bbls. was the highest since July. December deliveries brought the total for the year 1931 to 1,199,324 bbls. This compared with 1,312,695 bbls. in 1930. Based on an estimated average of $3 a barrel, the 1931 production was worth approximately $3,598,272, as against $4,266,258.75 in 1930, when the price averaged around $3.25 a barrel.

Available figures from January 1, 1925, just after the deep lime production was opened to December 31, 1931, show total production from the field of 4,677,665 bbls. with an estimated value of around $15,000,000. The figures for the various years are as follows:

Year	Bbls.
1925	195,000
1926	200,000
1927	332,132
1928	481,645
1929	956,859
1930	1,312,695
1931	1,199,324

For December, deliveries to Imperial Oil, Ltd., included 18,604 bbls. of crude naphtha, 39,401 bbls. of discolored naphtha and 8,847 bbls. of light crude. This compared with 17,433 bbls. of crude naphtha, 36,316 bbls. of discolored naphtha and 8,335 bbls. of light crude, a total of 62,084 bbls., in November. Deliveries to Regal Oil & Refining Co. increased from 4,116 bbls. in November to 4,643 bbls. in December; and deliveries to Bell Refining Co. decreased from 2,832 to 1,887 bbls.

Deliveries by the various producing companies for the two months compare as follows:

	Nov.	Dec.
Imperial Refinery, Crude Naphtha		
Royalite Oil Co.	1,051	1,999
Dalhousie Oil Co.	718	1,491
Home Oil Co.	2,091	2,328
Lowery Petroleums	563	549
Meriand Oil Co.	4,832	4,828
South West Petroleums	64	....
Mercury Oils	5,643	4,644
Miracle Oils	1,958	2,137
Associated Oil & Gas	513	608
Imperial Refinery, Discolored Naphtha		
Royalite Oil Co.	7,429	7,334
Advance Oil Co.	856	873
Associated Oil & Gas	83	....
Baltac Oils	181	61
Foothills Oil & Gas Co.	2,340	1,905
Mayland Oil Co.	5,327	5,436
Southern Lowery	9,122	8,439
Sterling Pacific Oil Co.	496	2,173
British Dominion	....	629
Southwest Petroleum Co.	635	673
Alberta Pacific Consolidated	185	617
Calmont Oils	338	351
Commonwealth Petroleums	888	898
East Crest Oil Co.	4,614	4,720
Mercury Oils	1,944	3,096
Mill City Oil Co.	96	110
Richfield Petroleums	425	399
Structure Oil & Gas	1,319	1,317
Miracle Oils	138	....
Imperial Refinery, Light Crude		
Royalite Oil Co.	125	....
Dalhousie Oil Co.	744	498
Home Oil Co.	193	367
Model Oils	5,099	5,355
Hylo Oils	2,174	2,627
Regal Oil & Refining Co.		
Okalta Oils	2,488	3,258
Alberta Federated Oils	401	398
Homestead Oils	1,021	987
Wellington Oil & Gas	206	....
Bell Refining Co.		
Spooner Oils	2,597	1,744
Vulcan Oils	235	113

South Turner Valley

In the South Turner Valley, Sterling Pacific Oil Co.'s No. 2, LSD 10, Section 33-18-2w5, is reported in production. No official estimates of crude naphtha re-

(Continued on Page 63)

the northwest of Greasewood, is shut down at 7,260 feet to clean boilers. At 7,249 feet it began to get streaks of sand in shale and this continued to the present depth. It is believed that this represents the top of the Muddy as the formation encountered at 7,198 feet apparently was not that horizon.

Morgan County

Prairie Oil & Gas Co.'s No. 1 Mortier, C NE NW Section 2-5n-60, 6 miles southeast of Greasewood, proved to be a disappointment in the Muddy sand at 6,465-90 feet after plugging back from the Dakota and is being abandoned. After bailing out the oil standing in the hole, it made about 1 bailer of fluid per hour, of which only 1 or 2 gallons was oil. The pipe has been cut at 4,009 feet preliminary to pulling. At one time this well looked as if it might make a producer in the Muddy.

Larimer County

Raddatz Corp.'s No. 2 Fagan, NE SE NE Section 17-4n-69, Berthoud Dome, which proved to be an edge well, is being abandoned at a total depth of 3,882 feet after finding the Muddy dry at 3,790-3,805 feet.

Natural Gas & Oil Co.'s No. 1 Meade, SW SE Section 17-4n-69, is rigging to deepen from 785 feet. This company is successor to P. Mosher, Inc., which started the operation last May. The Maupin interests were reported recently to have acquired control and were preparing to replace the light machine with standard equipment.

Colorado Producers, Inc.'s No. 1 Foster-Motz, SW SE SE Section 17-4n-69, is bottomed at 1,435 feet and preparing to run 6¼-inch to stop caving. Same interests' No. 1 Hogsett is rigging up a machine to test the sand which showed gas at 700 feet in a well to the north. Henry Dickerson recently acquired an interest in this operation.

Mayer Oil Co.'s No. 1 Reed, SW cor. NW Section 28-4n-69, is drilling below 2,500 feet and carrying the 6⅝-inch at 2,448 feet.

C. Leonard Smith's No. 1 State, SE cor. Section 36-12n-70, Sand Creek, is resuming at 720 feet. It is planned to cement the bottom of the hole and sidetrack the lost tools. This test is in the lower Pennsylvanian and has had good shows of oil and gas, but completion has been hindered on account of the small hole which has been reduced to 3½ inches. It is supposed to be only a short distance off the granite wash.

Routt County

Mid-Colorado Petroleum Co.'s No. 1 Omholt, NE cor. SE Section 29-4n-87, Fish Creek, is shut down at 1,700 feet. It had a small flow of gas in sandy shale at 1,560-1,620 feet.

Moffat County

Ohio Oil Co.'s No. 1 Bogenschultz, C SE SE Section 9-6n-91, Craig Dome, is drilling at 1,250 feet in a 11-inch hole with 6-inch drill stem. Warm artesian water was encountered at 400 feet. Several sands, normally carrying water, are expected before it reaches its first objective at around 2,700 feet.

Rio Blanco County

The California Co.'s No. 1 California-Raven, NW SE Section 30-2n-102, Rangely Dome, is drilling at 3,439 feet, and Magnolia Petroleum Co.'s No. 1 Maddock, C NW SE Section 9-2s-96, Piceance Creek, is standing at 2,298 feet after running and cementing 10-inch.

WYOMING

Natrona County

Midwest Refining Co.'s No. 11, SE NW NW Section 32-34-77, Geary Dome, which has been standing for some time at 5,340 feet after going through the second Wall Creek, is rigging to resume. Olson Drilling Co. has the contract.

Roy C. Tarrant's No. 1, NE NW Section 25-31-82, Haygood Dome, was abandoned at 510 feet. Tarrant is now drilling a wildcat in Montana.

Cuyler Oil Co.'s No. 1 Heery, SW SE SE Section 23-36-85, Powder River, has been abandoned at 2,285 feet after testing the Dakota.

Washakie County

Ohio Oil Co.'s No. 1 Strothers, SW SE NW Section 19-45-92, Neiber Dome, is standing after recementing liner to test a sand in the Frontier at 7,475 feet which showed some saturation before the hole was carried deeper to test formations down to and including the Sundance.

Park County

Midwest Refining Co.'s No. 4 Rosenberg, NE NW NE Section 26-58-98, Frannie Dome, is drilling at 350 feet. It is about one-fourth mile northwest of production and will go to the Embar.

Fremont County

The Texas Company's No. 1 State, SW SW Section 36-34-95, Alkali Butte, upon which work was resumed recently, is bottomed at 4,025 feet after plugging back from a total depth of 4,485 feet, and on January 7 flowed 40 bbls. of oil. Some experimental work is being done in an effort to produce the well with gas from No. 1 State-Ridgway.

Carbon County

Producers & Refiners Corp.'s No. 4 Wertz Dome, SW cor. SE Section 7-26-89, is bottomed at 3,541 feet and fishing for rods and wall hook.

MONTANA

Carbon County

Carbon Oil & Gas Co.'s No. 1 Armstrong, SW cor. NW Section 7-7s-22, Dry Creek Dome, which extends the proven area a little more than a mile to the east, looks as if it will be a 2,800 to 2,900-bbl. well. It was opened for a test the past week and filled 2,000 bbls. of storage in 16 hours. The oil was run through a gas separator with back pressure applied. Since it cleaned itself two weeks ago, the quantity of gas apparently has shown a slight decrease while the oil has increased. The well is producing from the Dakota sand at a total depth of 5,710 feet and is still estimated to be 70 feet off the Lakota sand, the principal producing horizon in the discovery well to the west. After the tanks were filled, the well was shut in pending the finding of a market. The crude is a very desirable grade, testing 52 degrees, and it is not likely there will be any difficulty in obtaining a market.

Ohio Oil Co.'s No. 1 Chapman, C SW SW Section 2-7s-21, which extends Dry Creek about a mile northwest, is rigging up tanks to make a production test. Tubing was run and the well was allowed to clean itself, but no gauge was taken. It looks as if it will be one of the best wells so far completed in the field. Total depth of is 5,700 feet after plugging back from the top of the red beds at 6,219 feet. The production is coming from the Dakota.

Ohio Oil Co.'s No. 1 Kuchinski, NW SE NE Section 15-7s-22, Golden Dome, to the east of Dry Creek, is rigging up rotary at 335 feet. This will be an important wildcat, following the results in the Carbon Oil & Gas well.

Toole County

Wagner-Mallerne-Trott's No. 2 Wright, C NW SW Section 11-34-1w, Kevin-Sunburst Field, was completed at 1,340 feet as a 2,000,000-foot gas well. It cut the Sunburst sand at 1,203-35 feet and a stray sand at 1,302-30 feet.

R. E. Craft and others' No. 1 Higgs, C SE NW Section 32-34-2w, was dry and abandoned at 1,740 feet.

Musselshell County

Minnesota-Flatwillow Oil Co.'s No. 1 Ivanhoe, SW cor. Section 7-13-26, has been abandoned at a total depth of 2,700 feet after finding nothing of value in sand at 2,630-80 feet.

Liberty County

No change was reported this week in the Western Natural Gas Co.'s No. 1 Hicks, C NW NE Section 26-37-4e, Whitlash district, which is showing for an oil producer. It is bottomed at 1,815 feet and at last reports had 900 feet of oil in the hole. Rods and tubing were shipped out for a pumping test, but a snowstorm forced the truck to turn back. It has cut two sands in the Colorado shale, both of which showed oil. If pumping test does not indicate a commercial well, it probably will be drilled on to the Sunburst.

Northland Oil & Gas Co.'s No. 1 Yurman, C SE SW Section 32-33-5e, which was reported some time ago to have been abandoned at 3,720 feet, is now reported cementing cave at 3,758 feet. It was through the Madison lime at 3,610 feet.

California Co.'s No. 1 Ross, NE SE NE Section 3-33-6e, Utopia district, is drilling at 2,212 feet.

Glacier County

Louis B. O'Neill, who in 1931 drilled 17 gas wells in the Cut Bank Field for the Montana Power Co., is reported to be making locations for 20 wells in the Cut Bank area, some of which will be to the west and southwest of the gas field with oil as the objective. Irving Stewart, geologist, is in charge of core-drilling operations in the territory working out structural conditions. The Texas Company has some acreage offsetting that to be tested and it is probable that company will have to drill several offsets.

Glacier County

Fulton Petroleum Co.'s No. 1 Blackfeet, SW NE NE Section 28-36-12w, Milk River district, is drilling at 2,840 feet in the Colorado shale.

Teton County

California Co.'s No. 1 Sullivan, NW NE NW Section 34-27-7w, Bynum district, is cleaning out. The hole keeps filling in to 2,760 feet.

Earl Oil Corp., Ltd.'s No. 1 Gad, SE cor. NE Section 22-22-8w, Sun River district, is drilling at 3,800 feet.

Cascade County

Buscher & Cassidy's No. 1 Johnson, NE cor. SE Section 19-22-3e, Benton Lake district, is drilling at 1,390 feet after moving in new boiler.

Charles Merz and others' No. 1 Sheffelt, SE NW Section 4-21-4e, Black Horse Lake, is drilling at 750 feet. It had water in the top of the Sunburst at 675 feet.

UTAH

Utah Southern Oil Co.'s No. 1 Balsey, C NE NE Section 31-23-21, Salt Valley Dome, in Grand County, is drilling at

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MEETING OF THE TEXAS COMPANY'S DISTRICT SUPERINTENDENTS AND FIELD MEN

Meeting of The Texas Company's district superintendents and field foremen, Gulf Coast division, in Houston, Tex., for the purpose of awarding lease efficiency prizes, banquet and general discussion relative to plans for 1932. Picture taken while visiting main office and plant of the Hughes Tool Co., Houston. Standing (left to right): Frank Nolen, chief warehouseman; L. E. Bales, district superintendent, Hull and Barbers Hill; R. B. Leggett, assistant district superintendent, Darst Creek and Luling; H. G. Shook, district superintendent, West Columbia; O. H. Matthews, production foreman, Sour Lake; C. C. Shields, chief clerk, Houston; W. W. Phillips, production foreman, West Columbia; D. A. Roberts,* pumper, Darst Creek; E. C. Middleton, production foreman, Laredo; L. T. Tighe, production foreman, Humble; M. Westbrook, district superintendent, Port Neches; C. C. Bass,* pumper, Humble; W. J. Sherman, secretary to division manager, Houston; K. G. Mackay, production foreman, Mexia; C. L. Raney, drilling rig foreman, West Columbia. Seated (left to right): A. J. Maxwell, production foreman, Hull; J. C. Weaver,* gang pusher, Humble; F. L. Hugus, district superintendent, Darst Creek and Luling; O. W. Biggs, district superintendent, Humble; Paine Pannill, general superintendent, South Texas division; R. L. Coder, drilling rig foreman, Barbers Hill. (*) Efficiency contest winner.

Important Test in Southwestern Kerr

Oil Near Top in Wildcat 75 Miles From Production. May Open Big Territory. Pettus Well Completed for 750 Bbls.

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Jan. 18.—Casing in Evans & Gant's No. 2 Love in southwestern Kerr County Saturday had been lowered to within 200 feet of the bottom where it was stopped by cavings. It was not thought serious and probably could be lowered the rest of the way by underreaming but may delay testing of the well several hours. Oil had continued to rise in the hole and was within 400 feet of the top. This rank wildcat, 75 miles from nearest production on the southeast and over 100 miles from production on the north and west, is the most important test in the area at this time as it promises to open up a big territory and give invitation to the wildcatter to come in.

Acreage around the test is held by Evans and Gant and a big block to the west and northwest by The Texas Company but there is much scattered acreage, some held by major companies and some held by the independents. The test making 31.5 gravity oil is the most important showing the entire area of some 125 to 150 square miles has ever had with its thousands of feet of Pennsylvanian formation.

No. 2 Love topped the Ellenberger at 5,630 feet where it encountered the first white lime. There seems to be some question but the best information available seems to be that there was no Mississippian under the Pennsylvanian and that it went direct to the Ellenberger. It is generally agreed that the showing is in the Ellenberger.

Oil rose in the hole slowly and at the end of about a week was up near the top with total depth 5,839 feet where it was 4 feet in the sand.

When oil was first encountered in the Evans & Gant No. 1 Love, about 1 mile north and slightly west of No. 2, at 2,552 feet it was hardly in the class of a commercial well. It would make a couple of barrels or so a day. Again at 3,391 feet in No. 1 Love it was barely a commercial well though it made more oil than at 2,552 feet. No such showing has been encountered in any test as that in No. 2 Love, in the region embracing Kerr, Real, Edwards, Sutton and other counties adjoining.

In the Phillips Petroleum Co. wells on the Holman land in northern Edwards County and southern Sutton County there was more than 1,000,000 feet of gas and a little oil and in the Transcontinental's No. 1 Peterson in northeastern Edwards County about 500,000 feet of gas and these are about the best showings ever had in the territory other than in the wells on the Love ranch.

Nueces County

Neal, Milton & Kepley will drill another test on the Roark land in the Saxet Field to the 4,800-foot sand where they had such a good showing in No. 1 Roark. On drill stem test at 4,832 feet No. 1 Roark was a flowing oil well but after casing was set they got salt water, and repeated efforts to correct the trouble, probably due to the casing being set too high, were without success. The spectacle of the well flowing on a drill stem test and then being a failure after casing was set does not check right excepting there was some mechanical trouble in completing the well.

It was plugged back to 4,260 feet where it was completed as a good big gas well and another test will be drilled to the 4,800-foot pay. No. 1 Roark was the first in the Saxet Field to be tested in the 4,800-foot sand, though other tests had picked up the showing.

Saxet Oil Co.'s No. 5 Weil, a mile south of No. 1 Roark, is now down 2,500 feet and may be carried to the 4,800-foot sand. It is near the company's No. 4 Weil which picked up the showing in that sand but, failing to get a good drill stem test, passed it up without setting casing to make a test. The general trend of the folds in that country is north and south and hence No. 5 Weil is located right to pick up the same production.

The 4,500-foot sand discovered by Gulf Coast Oil Co.'s No. 1 Maggie Harrell, 2 miles west of No. 1 Roark, has lately been offset on the south by Houston Oil Co.'s No. 1-B Maggie Harrell and now these two wells are to be offset on the east by Gulf Coast Oil Co.'s No. 2 and No. 3 Sedgwick. This is the only part of the field where this sand is producing.

The sand has increased in importance since the Gulf Coast Oil Co. drilled the discovery well. It came in, after considerable work was done on it, at around 150 bbls. several months ago. The production has varied up and down a little but generally has been increasing and on one 24-hour period last week made 325 bbls. of oil.

Pettus District

Pettus district is drilling one well at a time. Several locations have been decided on but for the most part operators wait till the other fellow gets his well completed before they venture out. Buck Oil Corp.'s No. 2 Ray, a south offset to The Texas Company's No. 1 Gremmel was completed Saturday for 750 bbls. and Slick-Seeligson, Inc.'s No. 3 Ray, an east offset to The Texas Company's No. 1 Gremmel, topped the sand at 3,884 feet which is higher than in No. 1 Gremmel.

The Texas Company has made locations for No. 2 Gremmel, 300 feet west of No. 1 and also for No. 3 Gremmel which is still farther west and an offset to C. R. M. Drilling Co. and Weinert's No. 1 Ray, but these tests are waiting the results of J. M. Davis' No. 1-B Ray.

At the east end of the field J. L. Mauldin is arranging to drill another test. His No. 1 fee got quite a good showing of oil and gas but seemed to be on the dividing line between the Townsite Pool on the northeast and the new pool on the southwest. The new pool or extension was brought in since he drilled his No. 1 fee and he is now moving south and west.

Goliad County

The third test to pick up production in Goliad County, 15 miles northeast of the Pettus Field in Bee County and 6 miles southwest of the Slick Pool on the Goliad-DeWitt County line, has been a failure so far as the Pettus sand is concerned. Neuhaus and Stanolind Oil & Gas drilled No. 1 Pettus in this new area last year and picked up quite a little oil in the Pettus sand. Not enough to make much of a well but too much to plug and abandon the area. Camp and Stanolind drilled No. 2 to the northwest and got a dry hole and now their No. 3 Pettus to the northeast found the Pettus sand at 4,282-91 feet dry. They will carry the hole to 4,500 feet and probably abandon it there unless they get production in another sand but it is understood may make a new location before abandoning the district.

Miscellaneous

Stanolind Oil & Gas Co.'s No. 1 Stratton in southwestern Nueces County will probably be drilled deeper. Total depth is 4,800 feet and it has had some pretty good showings of gas at different depths.

M. W. Eiser's No. 1 Wells in eastern Guadalupe County, southeast of the Darst Creek Field, is the wildcat of the Balcones Fault now attracting attention. At 3,050 feet late in the week it was thought to be in the hard basal Taylor marl and if calculations are right is running pretty high and about according to the preliminary estimates. It should be in the chalk soon and the chalk will give the best information as to how it is running.

Grayburg Oil Co.'s No. 1 Wells with an elevation of 510 feet topped the chalk at 3,495 feet. Eiser's No. 1 Wells, a little to the northwest and, if geology is right, up the dip, has an elevation of 541 feet and if it is running high it has not much more drilling to do before going into the chalk. Edwards lime in Grayburg's No. 1 Wells was found at 3,896 feet and it showed a little oil.

There was a lot of activity along this line of play before Eiser started his well. Since it was started the play has been more active and lease blocks have been taken at considerable distance northeast and southwest of it.

Big Lake Oil Co. is moving a rig to St. Joseph Island off the coast at Aransas Pass for a deep test.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

Company, farm and location—	Remarks:
ATASCOSA COUNTY	
American Central Oil Co.'s No. 2 Mary McConnell, 150 ft. W of E line, 300 ft. S of No. 1, Blk. 138, W. C. M. Baker Sur., 3 miles W and ½ mile S from Somerset	T.D. 1,605 ft.; deepening old well.
Glen Mathis' No. 2 Mrs. C. Martin, 100 ft. SE of No. 1	T.D. 2,980 ft.; S.D.
BLANCO COUNTY	
Hardy-Sitton's No. 1 McMillan	T.D. 602 ft.; S.D.
Theo. Hicks' No. 1 Specht, 1,500 ft. from S line, 500 ft. from W line of farm, in Thomas M. Fowler Sur. No. 27 in extreme south point of county	T.D. 1,650 ft.; S.D.
Liles Adams et al's No. 1 Luders, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T.D. 1,100 ft.; standing.
BASTROP COUNTY	
E. R. Mart's No. 2 Wm. Bahn, 2,000 ft. from E line, 1,300 ft. from S line of farm in James Sandifer Sur.	Skidding derrick from No. 1 Bahn.
Sun Oil Co.-Humble Oil & Ref. Co.'s No. 1 Powers, 400 ft. to N and E lines of Blk. 197, Bastrop town tracts	T.D. 2,100 ft.; drlg.
Texas Dev. Co.'s No. 1 C. H. Ray, 800 ft. from W line and 400 ft. from S line of farm, in Thos. Christian Sur.	T.D. 2,635 ft.; drlg.
BELL COUNTY	
Bridwell et al's No. 1 Nichols, 150 ft. to W and N lines of farm, N. Roberts Sur.	T.D. 425 ft.
Bridwell et al's No. 1 G. A. White, 550 ft. to E line, 150 ft. to S line of farm, Nancy Roberts Sur., 4 miles SE from Belton	T.D. 537 ft.; drlg.
W. A. Klecka's No. 1 W. W. Thornton, 500 ft. from N line, 1,955 ft. from E line of tract in R. Roberts Sur.	Location.
J. W. Riley's No. 1 W. S. Chaffin, in M. Griffin Sur.	T.D. 365 ft.; S.D.
Jas. Scroggins' No. 2 Warrick, Ingram Sur.	T.D. 1,432 ft.; S.D.
BEE COUNTY	
Alexander et al's No. 1 McFall, 3 miles S Skidmore	T.D. 2,100 ft.; standing.
Humble O. & R. Co.'s No. 1 Laura Thompson, 6,360 ft. from N line, 15,100 ft. from W line of tr. in Garrett Roache Sur., S part of county	T.D. 5,050 ft.; S.D.
BEXAR COUNTY	
Amsden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio	T.D. 214 ft.; drlg.

(Continued on Page 56)

SOUTHWEST TEXAS PROVEN AREAS

Company, farm and location—	Remarks:
DOBROWOLSKI POOL—BEXAR COUNTY	
Williams et al's No. 2 Strunk, Juan Montez Sur.	Rigging up.
NORMANNA POOL—BEE COUNTY	
C. F. Nichols' No. No. 1 Hicks	T.D. 1,992 ft.; rigging to deepen.
PETTUS POOL—BEE COUNTY	
Buck Oil Corp.'s No. 2 Ray, 628 ft. from E line, 150 ft. from N line of lease, S offset to Texas No. 1 Gremmel	T.D. 3,913 ft.; swabbing.
C.R.&M. Drilling Co. and H. H. Weinert's No. 1 Ray, 150 ft. from N and E lines of lease in J. W. Williamson Sur.	Rigged up.
J. M. Davis et al's No. 1-B Ray, 150 ft. to N and E lines of 10-ac. lease, next south of Weinter's, John W. Williamson Sur.	Rigging up.
Houston Oil Co.'s No. 3 Portis, 300 ft. E of No. 2, A. Smalley Sur.	Rigged up.
Slick-Seelingson, Inc., No. 1-B Ray, 150 from S and W lines of George A. Kerr Sur.	T.D. 1,300 ft.; drlg.
COOKSEY POOL—BEXAR COUNTY	
Chiquita Oil Co.'s No. 3 Cooksey, 480 ft. from E line, 330 ft. from S line of tract in J. W. Rialls Sur.	Location.
BRUNER POOL—CALDWELL COUNTY	
Joe Bruner's No. 1 Malone, 150 ft. to N line, 750 ft. to W line of tr., A. Floyd Sur.	T.D. 2,704 ft.; drlg.
John Storey's No. 1 Dickerson, 150 ft. to N of center of S line of tract, John R. Rains Sur.	Rigging up.
SCHOOLFIELD-O'BYRNE POOL—DUVAL COUNTY	
Magnolia Petroleum Co.'s No. 7 Wilson, 1,340 ft. to W line, 1,150 ft. to N line of Sur. No. 134	T.D. 3,295 ft.; abnd. lost returns.
COLE POOL—DUVAL COUNTY	
Cole Petroleum Co.'s No. 74 Benavides, 144 ft. from NW line, 65 ft. from NE line of Blk. 8, Sec. 19, Cole Subd. of Mariana Arispe grant	T.D. 1,720 ft.; comp. 100 bbls.
French Oil Corp.'s No. 5 Benavides, 1,602 ft. from N line, 150 ft. from W line of Sur. 659	Spudded in.
CAMP POOL—GUADALUPE COUNTY	
Humble Oil & Ref. Co.'s No. 3 Dan Denman, 885 ft. E. 150 ft. N of SW of 200-ac. tract in Wm. Arrington Sur.	600 ft.; drlg.

(Continued on Page 58)

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BETTER BE SAFE THAN SORRY

California Continues to Overproduce

Operators Are Warned That Their Position Is Dangerous. On the Other Hand They Ask for Higher Prices Before Curtailing

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Jan. 16.—With two weeks of the new year already gone and State production still around or above 500,000 bbls. per day, instead of being reduced in conformity with the new curtailment program, it is quite obvious that the oil industry in California is approaching a new crisis. Current production is approximately 52,000 bbls. per day in excess of the maximum daily allowable of 456,700 bbls., to which producers are expected to adhere during the first half of 1932. A very pronounced weakening in the curtailment program has become quite evident during the past few weeks and unless this deflection is remedied in the near future, we may be face to face with another gasoline price war.

The situation seems to be getting beyond control and the seriousness of the thing requires energetic efforts to forestall another break in the existing price structure. Marketers frankly admit that a gasoline war this spring is more of a probability than a possibility unless the marketing evils now employed are eliminated at an early date. A determined effort is being made to remedy the situation but, in view of recent developments in the refined oil market and the temporary breakdown in curtailment work, the outlook is not any too bright. This condition is to be regretted because the goal toward which producers and refiners have been striving since 1929 is now within sight and could be reached by one final concerted drive.

Governor Rolph Is Interested

The situation has become so acute that Governor Rolph has stepped into the picture but there is really nothing he can do which would have an immediate effect. The governor has instructed Atty. Gen. U. S. Webb to advise him whether the referendum on the Sharkey Conservation Bill can legally be placed on the May primary ballot, rather than the general election ballot in November, 1932. If this can be done, the electorate will have an opportunity to vote on the bill in question. The Sharkey Conservation Bill was passed at the last session of the California legislature but was inoperative because a referendum petition was invoked to forestall enforcement until voted upon at a general assembly. In addition to requesting this legal opinion, Governor Rolph has invited E. B. Reeser, former president of the American Petroleum Institute to conduct a statewide survey of existing conditions in California, and it is believed quite likely that Mr. Reeser will undertake this task in the near future.

Sales Agency's Proposal

The California Oil Producers Sales Agency, in a report issued a few days ago, recommended an upward revision in crude oil price schedules on the assumption that operators would be glad to meet curtailment obligations if recompensed for the additional curtailment required to reduce State production to the maximum allowable of 456,700 bbls. per day. This communication is particularly interesting as it is generally admitted that major companies would increase the posted price for crude oil if operators effected the necessary reduction in production. The sales agency tacitly informs buyers that if they raise the posted price for crude oil they will effect the necessary reduction in production, while buyers on the other hand have informally notified producers that they will raise the posted price after the producers have curtailed.

The communication of the Oil Producers Sales Agency of California, submitted by its executive officers and approved by the executive committee, states that "from a study of the present position of California's greatest industry, the business of producing, refining and marketing of oil and its by-products, it appears that it is approaching a final crisis. While a superficial view of the situation might indicate a more favorable position than that prevailing a year ago, yet there are factors that must be considered in forming an opinion as to its stability and as to the course it should take in its endeavor to reach at least a normal plane of activity so as to be a factor in bringing back an era of prosperity to the State of California. The past period of abnormal expansion and development has demonstrated that under limited control an industry can expand its productive and manufacturing capacities to a point where they become a menace and a destructive factor. This condition was reached in the oil business of the State of California some time ago.

"California's potential production of crude oil on January 1, 1932, was estimated to be in excess of 1,000,000 bbls. per day and its refinery capacity sufficient to handle this amount. On the other hand, the estimated requirements of the Pacific Coast and offshore business demand approximately 456,000 bbls. of crude oil per day, or less than one-half of the State's capacity to produce and refine. It is, therefore, apparent that curtailment of production and a reduction in the operating status of refineries is necessary to prevent economic chaos.

That it is impossible for the purchasing and refining companies to even attempt to buy and pay for the oil that the fields of the State can produce is evident. Vanishing profits and diminishing surpluses, coupled with excessive stocks of crude and refined products, indicate the steadily weakening financial position of both the large and small units of the industry. Those responsible for the management of the great purchasing and refining corporations realize that their latitude in meeting any increase in the production of crude oil by the buying and storage of such increase is extremely limited. We are, therefore, forced to the conclusion that if curtailment of production and refining fails, the oil industry will be shaken from stem to stern and the reaction from such an occurrence will be reflected in every activity on the Pacific Coast.

Critical Period for California

"We feel the foregoing is a moderate statement when the following facts are considered. The oil industry of this State, California, is the base upon which rests the gasoline tax, which in 1931 amounted to a sum in excess of $42,000,000. This industry is also paying city, county and state taxes that mount into millions upon millions of dollars per year and the county taxes paid in some instances are approximately 25 per cent of the entire county tax. The oil business in its entirety is the largest employer of any industrial enterprise in California. It is estimated that there are 300,000 employes dependent upon this industry for their livelihood. The savings and investments in the industry are said to amount to $2,000,000,000, or equal to two-thirds of the bank deposits of the State, totaling $3,000,000,000. As the ownership of the oil companies is widespread, the public and the employes of the oil industry are most vitally concerned. Great financial and business institutions, following the normal discharge of their commercial activities, are handling large transactions with the different units of this industry and their welfare, to a large extent, depends upon it. Hence, one can readily imagine what a catastrophe might result should the voluntary limitation of the production of crude oil fail for even a few weeks.

"The condition now tending to break down the morale of the oil producer is the requirement that his production of crude oil, in order to meet demand, forces curtailment to a point where he cannot operate without financial loss and sell his oil at present prices. When this stage is reached, then in desperation he may adopt any method of self-preservation. It is the conclusion of your officers and the executive committee of the Oil Producers Sales Agency of California that the limit of curtailment of oil by the producer is reached when such curtailment brings him to a point where the sales price of his oil is only equal to the expense of operation. Contemplated curtailment has passed this limit in many instances and if the producers of the State are to control the reservoir of crude oil behind them and limit the output approximately to the reasonable demands of consumption, the producer must receive for his commodity a price that will enable him to operate without direct financial loss.

"Therefore, the Oil Producers Sales Agency of California, a nonprofit organization, in behalf of its members and their employes and the public as well hereby makes open and public appeal for a living price for crude oil which shall be at least sufficient to enable the small producer to operate without loss and to produce his fair share of oil in keeping the total production of the industry within reasonable limits of the demand. The right to operate without loss is generally recognized with respect to the operation of public utility and public service corporations and should be applicable in this particular. Any other course would invite a flood of excess production, destructive drilling competition, competitive price wars, tax evasion, and possible bankruptcy of the entire industry to say nothing of the ruinous effect upon the general business structure of the State."

Criticism of Operators

Although the Long Beach Field of Los Angeles Basin has been subjected to severe criticism because of the failure of operators in that district to curtail production, Kettleman Hills operators were also criticised in a resolution unanimously adopted by the Los Angeles County council of the American Legion during the early part of the current week.

Kettleman Hills Prices

Although higher prices have been posted for crude oil in the Kettleman Hills Field, there does not seem to be any scramble for current production. The General Petroleum canceled its crude oil price schedule covering Kettleman Hills at the close of December and on January 1, 1932, posted a schedule of prices based on gravity. Previous to the latter date, Kettleman Hills crude testing 30 gravity and above was quoted at 66 cents per barrel, while under the new schedule of prices quotations are based on a sliding scale ranging from 66 cents per barrel to a top price of 78 cents per barrel for crude testing 39 degrees and above. Neither the General Petroleum nor Associated has issued public schedules and the prices quoted will be paid for all and any oil bought on a day to day basis.

Because of changing conditions within the industry, long term contracts for the purchase of Kettleman Hills crude are not looked upon with favor by purchasing companies. During 1931, the General Petroleum was under contract to purchase current production of the Continental and George F. Getty, Inc. During 1932, the General Petroleum will purchase crude from the Milham Exploration Co., Belmont Investment Co., Lincoln Drilling Co. and the Continental. Since the Shell Oil Co. has recently purchased the Getty interests in the North Dome, it will undoubtedly exercise its option of taking this oil in kind. The Union has been buying the Superior Oil Co.'s production from the Huffman lease but this contract, it is understood, will expire in the near future.

Dominguez

The Union Oil Co. put two wells on production in the Dominguez Field of Los Angeles Basin during the past week and should have another ready for a production test in the near future. One of the Union's current completions was a former upper zone producer which was recompleted after being redrilled and deepened to the third Callender zone. This well was No. 20 Callender, which was returned to production a few days ago flowing 1,020 bbls. of 29.4 gravity oil per day from 4,873 feet. The Union's other completion was No. 17 Hellman, a new well brought in flowing 4,595 bbls. of clean 31.0 gravity oil from the third Callender zone at 4,879 feet. This well was given a preliminary production test a few weeks ago and, while it showed an initial of 2,250 bbls. per day from 4,678 feet at that time, it was subsequently decided to

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	.....	208,460
Gasoline	152,057	21,722	252,232	36,033	404,289	813,034
Coastwise—						
Crude oil	366,297	52,328	251,117	35,874	617,444	888,167
Fuel oil	330,232	47,176	112,451	16,063	442,683	766,713
Diesel and gas oil	52,752	7,536	5,780	826	58,532	81,318
Gasoline	258,849	36,978	259,107	37,015	517,956	495,275
Kerosene	.....	.....	2,287	327	2,287	26,729
Exports—						
Crude oil	194,954	27,851	149,944	21,421	344,898	351,389
Fuel oil	263,956	36,279	76,218	10,888	330,174	467,382
Diesel and gas oil	.....	.....	119,845	17,131	119,845	125,979
Gasoline	129,589	18,513	.....	.....	129,589	882,799
Kerosene	.....	.....	.....	.....	.....	3,022

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Gasoline	79,650	11,379	67,899	9,700	147,549	.....
Lubricants	.....	.....	7,560	1,080	7,560	.....
Coastwise—						
Fuel oil	197,053	28,150	62,590	8,941	259,642	224,629
Gasoline	93,973	13,425	164,642	23,520	258,615	128,939
Kerosene	10,406	1,487	4,340	620	14,746	7,761
Exports—						
Crude oil	.....	.....	7,759	1,108	7,759	.....
Diesel and gas oil	.....	.....	81,131	11,590	81,131	.....
Gasoline	73,449	10,493	.....	.....	73,449	82,170

take in the maximum penetration available in the third Callender zone before listing it for completion. In addition to current production of crude oil, No. 17 Hellman is flowing 1,900,000 feet of natural gas per day. Since the Union started drilling operations on the Callender, Hellman and Carson leases at Dominguez, the company has completed eight successful producing wells. This development work is due to lease requirements which have accumulated over a period of three years, during which time the company has paid for the privilege of suspending drilling operations. Since the resumption of development work in this field the Shell Oil Co. has finished No. 40 Reyes and should have No. 41 tanking oil in the very near future.

Kettleman Hills

There were no wells put on production in the Kettleman Hills Field during the past week and it will probably be another month before any additional completions are chalked up. Unless something unforeseen develops, the Kettleman North Dome Association should finish three or four new wells late in February or early in March and it is quite probable that the Standard will also finish a new well some time during this period. No. 1 Blauvelt of the North American Consolidated, which is temporarily held up because of mechanical trouble at 9,500 feet, may also be completed along about this time, provided of course that the drill pipe stuck at 8,800 feet is successfully circulated loose and drilling resumed. No. 1 Elsinore of the North American is coring ahead in oil sand at 8,368 feet and may possibly be finished before the completion of No. 1 Blauvelt.

The most important well under way in the North Dome of Kettleman Hills at the present time is the Kettleman North Dome Association's No. 36-30 J, which is rotating ahead in the brown shale at 7,000 feet. This well, located in Section 30-21-17, is the most westerly drilling project under way in the North Dome at the present time. The importance which attaches to this project lies in the fact that the brown shale was encountered approximately 500 feet higher in the hole than anticipated. In view of wells finished in this end of the field up to the present time, Kenda's No. 36-30 J will probably not encounter the Elliott gas zone but will undoubtedly be completed in the Ochsner zone, which produces a normal black 40 gravity crude. It is located west of the Superior's Huffman lease and the Union's Amerada King property and will consequently prove up a substantial part of these leases if substantial production is secured. The log of this well tends to indicate that the western limits of production extend further out than anticipated, although the edge of commercial production cannot be far distant. The logging of brown shale substantially higher in the hole than anticipated cannot be accounted for unless there is a subsurface displacement or a twist in the axis of the structure at this point.

The Petroleum Securities successfully recovered part of the flow string in No. 1 Burbank, its test well in the Middle Dome of Kettleman Hills, and is at the present time endeavoring to recover the remaining portion of the flow string, the top of which is at 4,995 feet. Upon the recovery of the fish, the hole will be reconditioned and a survey made to determine the point at which the salt water is entering the hole. This well, it will be recalled, was brought in flowing 1,400 bbls. of crude oil and 1,200 bbls. of salt water per day on a production test concluded a few weeks ago at 9,208 feet. A gray sand which may have been water bearing was encountered in the bottom of Petroleum Securities' No. 1 Burbank at 9,332 feet and the hole was accordingly plugged back to the completion depth, 9,208 feet. The salt water which accompanied the flow of oil in this well may either have been due to a defective bottom plug or a hole in the casing above the shutoff. At any rate, the Middle Dome is considered definitely proven up for commercial production. The status of the Middle Dome is of particular interest in view of the sessions held in Washington, D. C., during the early part of the week when operators of the North Dome petitioned the Secretary of the Interior to modify decisions of the department with respect to prices and royalties payable to the government. It is the general consensus of opinion that the Department of Interior would appreciate operating conditions and grant concessions to which operators believe they are entitled particularly in view of the fact that they have strictly adhered to the various curtailment programs and endeavored by cooperative action to prevent the waste of natural gas and alleviate the overproduction situation which has confronted California for the past several years. Kettleman Hills, incidentally, is one of the few flush fields in the State where operators have created an underage rather than an overage.

Elwood

James S. Bennett, representing the Department of Natural Resources, has been conducting an exhaustive research of flush fields throughout the State in order to prevent the waste of natural gas when the demand has lessened at the end of the winter season. A hearing over several days and involving the Ventura Avenue Field was conducted during the month of December and operators in this district occupied several days during the past week introducing testimony as to the production and waste of natural gas during the summer of 1931. The hearing was resumed during the past week and an amiacable adjustment of the differ-

(Continued on Page 59)

OGEMAW COUNTY, MICHIGAN, TEST OPENS FOURTH WILDCAT PROJECT

By George A. Whitney

MOUNT PLEASANT, Mich., Jan. 18. Only two completions were reported from the Michigan fields for the week. One is Wellman Oil Co.'s No. 1 Albert Reinhart farm, SE NW SW Section 13, Greendale Township, Midland County, over a mile east of the discovery well of the East Pool, which is a 10-bbl. producer and does not look any too inviting, although only further development will settle whether the rich pool extends east any distance. The well went to a total depth of 3,566 feet. The other completion was a dry hole, the Geneva Oil Co.'s No. 1 on the H. B. Cunningham farm, NW SW SE Section 15, Greendale Township, same county, also to the east of the big producers in the East Pool.

Mammoth Oil Co.'s No. 1 Bothwell farm, SE SE NE Section 15, Hatton Township, Clare County, resumed drilling at a depth of 3,770 feet after having been shut down for a long period.

Lewis E. Mehrtins' No. 1 Michael Baumann farm, NE SE SW Section 21, Wheatland Township, Mecosta County, drilling at around 3,500 feet.

W. L. McClanahan's No. 1 NE SE Section 12, Greendale Township, Midland County, is moving in rig. Same party made location for No. 1 A. E. Hughes, Section 20, same township, also for No. 4 A. G. Struble, NE SW Section 10, same township.

Ogemaw County

Considerable interest is shown in Ogemaw County, which will be the fourth large wildcat test project in Michigan by the Pure Oil Co. The Pure company holds leases on approximately 200,000 acres in that area, and a number of tests will be made. The initial test is to be made on the William T. Yeo's farm, 4 miles southeast of the town of West Branch, near the center of Ogemaw County, and almost due west of the town of Tawas. Ogemaw County is bounded on the south by Gladwin and Arenac Counties, on the east by Iosco County, on the north by Oscoda County, and on the west by Rosscommon County, and northwest of Saginaw Bay.

The Yeo farm test is in Section 2, Horton Township. The scope of the operations in this territory to be explored is infinite, according to Edward F. Claggett, divisional manager of production for the Pure Oil Co. Even though the company has faced curtailment of pro-

(Continued on Page 66)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S-T-R	Depth	Status—
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	9- 2-15	7,414	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	6,238	suspended
Westwood Oil Co., No. 2 Hermosa, Los Angeles Co.	6- 4-14	2,151	suspended
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	2,700	suspended
Lawndale Pioneers, Inc., No. 1 Peck, Los Angeles Co.	20- 3-14	5,712	sd. sh. drilling
Mohawk Pet., No. 1 El Nido, Los Angeles Co.	29- 3-14	1,046	sd. sh. drilling
Wilmington Consd., No. 1 Watson, Los Angeles Co.	17- 4-13	1,012	cleaning out
Ranger Pet. Co., No. 1 Watson, Los Angeles Co.	28- 4-13	3,785	cemented
Avalon Park Dev. Co., No. 1 Watson, Los Angeles Co.	17- 3-13	rig	suspended
Pedro Pet. Corp., No. 1 San Pedro, Los Angeles Co.	14- 5-14	rig	suspended
Brubaker, W. O., No. 1 Van Nuys, Los Angeles Co.	11- 2-15	2,700	suspended
Rucker & Croul, No. 2 Puente, Los Angeles Co.	27- 2-10	2,200	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2- 9	2,250	suspended
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30- 2-12	1,370	suspended
Jones, W. L., No. 1 Bell, Los Angeles Co.	31- 2-12	280	cemented
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	4,902	suspended
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6- 2-11	5,060	cemented
Wardell & Menichini, No. 1 Montebello, Los Angeles Co.	7- 2-11	rig	rigged up
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24- 1-13	3,919	suspended
Yellowstone Oil Co., No. 2 Alhambra, Los Angeles Co.	19- 1-12	2,015	suspended
Davidson Oil Co., No. 1 Monterey Park, Los Angeles Co.	32- 1-12	....	location
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26- 1-17	1,004	cleaning out
Caballero Estates, No. 1 Calabasas, Los Angeles Co.	23- 1-16	1,460	suspended
Simi Oil Co., No. 1 Calabasas, Los Angeles Co.	18- 1-17	4,901	sd. sh. drilling
Simi Oil Co., No. 2 Calabasas, Los Angeles Co.	18- 1-17	265	sd. sh. drilling
Marble, Willard, No. 1 Chatsworth, Los Angeles Co.	6- 2-16	1,350	suspended
Ajax Pet., No. 1 Newport, Orange Co.	21- 6-10	6,575	br. sh. drilling
Beck, Alfred, No. 1 Corona, Riverside Co.	8- 4- 6	1,110	suspended
Spindletop Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,493	cleaning out
Duncan, N. L., No. 1 Sagebrush, Riverside Co.	8- 4- 6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,392	fishing
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	635	sd. sh. drilling
Woods, D. H., No. 1 Salton Sea, Imperial Co.	7-11-16	670	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,519	suspended
South Bay Oil Co., No. 1 Border, San Diego Co.	31-18- 2	1,243	suspended
Itasca Pet. Co., No. 1 Mesa, San Diego Co.	33-18- 1	1,700	hd. sd. drilling
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 6- 8	5,250	suspended
Oklahoma Oil Corp., No. 1 Palms, San Diego Co.	25-11- 8	510	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S-T-R	Depth	Status—
Barnsdall, No. 1 Los Alamos, Santa Barbara Co.	31- 8-33	....	building road
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	8,566	fishing
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-35	3,450	cleaning out
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	6,912	plug 5,656 ft.
General Pet., No. 4 Goleta, Santa Barbara Co.	3- 4-29	rig	rigging up
General Pet., No. 133 Goleta, Santa Barbara Co.	21- 4-28	2,030	suspended
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	2,053	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	2,047	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	2,050	suspended
Bowles Oil Co., No. 140 Goleta, Santa Barbara Co.	21- 4-28	2,065	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	2,004	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	2,012	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	2,010	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	2,010	suspended
Bellview Oil Co., No. 159 Goleta, Santa Barbara Co.	24- 4-29	2,099	suspended
Johnson & Strickland, No. 1-A Goleta, Santa Barbara Co.	19- 4-27	4,886	suspended
The Texas Company, No. 2 Carpenteria, Santa Barbara Co.	34- 4-25	rig	core hole
Sovereign Oil Co., No. 1 Guadalupe, Santa Barbara Co.	20-10-35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Pacific Finance Co., No. 1 Carpenteria, Santa Barbara Co. Tideland		2,011	suspended
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Bell, H. H., No. 1 South Mountain, Ventura Co.	22- 3-21	1,940	rd. sh. drilling
Pure Oil Co., No. 1 S. F. Canyon, Ventura Co.	15- 4-21	2,591	suspended
Woodruff Oil Co., No. 1 Miguelito, Ventura Co.	4- 3-24	....	building road
Graham & Loftus, No. 1 Goose Lake, Kern Co.	20-27-22	5,690	sd. sh. drilling
General Pet., No. 1 Buttonwillow, Kern Co.	6-28-23	2,615	cleaning out
Wilshire Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	7,000	suspended
Milham Expl. Co., No. 6 Buttonwillow, Kern Co.	8-28-23	4,495	testing
Purman, T. H., No. 1 McKittrick, Kern Co.	22-29-21	2,211	sd. sh. drilling
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-31-24	5,380	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21	7,800	br. sh. drilling
Wallace, K. C., No. 1 Belridge, Kern Co.	32-29-21	4,222	suspended
Rio Cal Pet., No. 1 Shale, Kern Co.	2-27-18	2,355	suspended
Wicker, Sy., No. 1 Arvin, Kern Co.	12-30-28	3,850	suspended
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	5,910	suspended
Osborn, Colter, No. 1 Weed Patch, Kern Co.	15-30-29	3,465	suspended
Osborn, Colter, No. 2 Weed Patch, Kern Co.	15-30-29	2,005	suspended
Fullerton Oil Co., No. 2 Semitropic, Kern Co.	25-27-23	2,000	core hole
Standard, No. 1 Devils Den, Kern Co.	14-25-18	1,600	suspended
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,060	gr. sd. drilling
Signal Oil Co., No. 1 Blackwell Corner, Kern Co.	15-26-19	106	suspended
United Kern Pet., No. 1 Mojave, Kern Co.	26-10-14	1,065	suspended
Meridian Oil Co., No. 1 Mojave, Kern Co.	11- 9-15	4,000	Diorite
Kendall Dev. Co., No. 1 Mojave, Kern Co.	27-11- 9	905	hd. sd. drilling
Harding, J. B., No. 1 Mojave, Kern Co.	5-10-10	1,030	redrilling
Barnsdall Oil Co., No. 1 Tejon, Kern Co.	15-11-20	1,830	sd. sh. drilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	6,025	suspended
Descanso Oil Co., No. 1 Tejon, Kern Co.	31-11-19	rig	rigging up
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	6,197	suspended
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.	30-16-23	2,390	suspended
Kent & McDonald, No. 1 Carrizo, San Luis Obispo Co.	3-32-22	2,502	br. sh. drilling
Trav-El Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-32-22	2,450	suspended
Indian Dome Oil Co., No. 1 Edna, San Luis Obispo Co.	26-31-12	3,380	cleaning out
Martin, J. D., No. 1 Edna, San Luis Obispo Co.	5-31-13	2,990	suspended
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	34-27-11	4,027	cleaning out
Emerich Oil Co., No. 1 Atascadero, San Luis Obispo Co.	13-28-12	1,730	br. sh. drilling
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	1-29-12	1,650	suspended
Pacific Inland, Well No. 1, Monterey Co.	19-23-15	2,280	br. sh. drilling
Brown, W. F., No. 1 Parkfield, Monterey Co.	15-23-14	1,051	suspended
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	redrilling
Niel, W. B., No. 1 Dudley Ridge, Kings Co.	32-22-20	rig	rigged up
Guess, E. B., No. 1 Dudley Ridge, Kings Co.	12-23-22	930	sd. sh. drilling
Irma Investment Co., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,345	gas well—idle
Irma Investment Co., No. 2 Dudley Ridge, Kings Co.	7-23-20	1,224	prod. test
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	gas well—idle
Eagle Oil Co., No. 1 Dudley Ridge, Kings Co.	15-23-20	691	cleaning out
Kettleman O. & G. Co., No. 1-A Dudley Ridge, Kings Co.	20-23-20	1,194	gas well—idle
Valley Expl. Co., No. 1 Dudley Ridge, Kings Co.	12-23-19	1,302	cemented
Valley Expl. Co., No. 2 Dudley Ridge, Kings Co.	12-23-19	1,200	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	4,903	hd. sd. drilling
Seymour, L. W., No. 1 Avenal, Kings Co.	10-23-16	1,148	suspended
Tulare Basin Gas Co., Well No. 1, Kings Co.	17-23-19	rig	suspended
Tulaco Oil Co., No. 1 Corcoran, Tulare Co.	30-22-23	rig	suspended
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-24-27	2,200	suspended
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,092	suspended
Gravity Expl. Co., No. 1 Alpaugh, Tulare Co.	11-24-23	rig	suspended
Ellis & Stanford, No. 1 Tulare Lake, Tulare Co.	20-24-23	1,920	cleaning out
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	7,694	suspended
Orinda Pet., Well No. 1, Contra Costa Co.	32- 1- 3	2,120	suspended
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	1,040	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	2- 2-10	4,750	cleaning out
Hilderbrandt, R., No. 1 Crows Landing, Stanislaus Co.	36- 6- 7	1,130	sd. sh. drilling
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-23- 3	3,040	suspended
Union Oil Co., No. 1 Tracy, San Joaquin Co.	14- 3- 6	2,975	bl. sh. drilling

Stark County, Ohio, Is Heavily Drilled

Continues Most Active in Development Work in Central West. Eight Completions in Indiana. Western Kentucky Expects Play

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Jan. 18.—In the Lima Field of northwestern Ohio, O'Neal and others' test on the A. T. Spayth farm, Section 6, Tymochtee Township, Wyandot County, failed to find a showing at a total depth of 1,598 feet, 30 feet in the Trenton formation. Upper Sandusky Gas Co. is about due to complete a test on the Saltzman farm, Section 28, Crane Township, same county. Ennis Brothers and others failed to find any showing on the William Harpest farm, Lot 4,478, Jefferson Township, Logan County. Trenton in this hole was found at 1,771 feet and no signs of oil or gas at 24 feet in the sand at a total depth of 1,795 feet. Eilerman Oil Co. is drilling No. 2 F. J. Borcher farm, Section 26, Cynthian Township, and Rucker and others are drilling on the William Barhorst farm, Section 25, same township.

Commonwealth Gas Corp. is drilling on the Thomas Mullady farm, Section 12, Cessna Township, Hardin County, not far removed from the good wells on the Grant Geiger farm, in Sections 12 and 13, same township.

In the Tiffin Field, Seneca County, Arthur Geyer is reported drilling his No. 3 on the F. E. Baldwin farm, Section 30, Clinton Township. R. E. Greene is drilling No. 1 on the T. C. and B. G. Shoull farm, Section 30, Liberty Township, same county. J. H. Murphy & Sons are drilling No. 3 Mary Getuldig farm, Section 11, Hopewell Township, same county.

CENTRAL OHIO

Four completions were reported from the Central Ohio Field proper, one being a producer with an initial production of 10 bbls., and three gas wells. During the week 10 new locations were staked and eight wells started spudding, a total of 18 in new work, a very good start for the New Year.

Ashland County failed to report any completions, and but two changes. Commonwealth Gas Corp. made a location on the Oratta Bennett farm, Section 31, Jackson Township, and started drilling on the William Shearer farm, Section 11, Montgomery Township.

In Lorain County, McMillan and others brought in a nice gas well on the H. F. Eggers farm, Section 6, Carlisle Township, from 2,417-37 feet. Same parties started drilling on the H. and C. Norton farm, Section 15, Avon Township, same county, and Ramage & Willis made a location for a second test on the Fred Armbruster farm, Lot 72, Grafton Township.

In Summitt County, Smith and others staked a location for No. 2 on the Charles A. Smith farm, Section 19, Green Township.

In Licking County G. H. Long's No. 4 Grandville Ashcraft farm, Section 22, Fallsburg Township, is rated at 10 bbls. initial from 2,850 to 2,907 feet.

In Athens County, the Federal Oil & Gas Co. is drilling on the C. C. Snodgrass farm, Section 36, Orange Township, and the Standard Natural Gas Co. is drilling on the Almeda J. Young farm, Section 12, Waterloo Township.

Stark County, the most active field of development work in any part of Ohio, is being heavily drilled, with exceptionally good results. The gas is at a great depth. In Jackson County, East Ohio Gas Co. brought in two nice gas wells in No. 1 Earl Jackson farm, Section 15, at a depth of 4,413 feet, and No. 2, same farm, in at 4,415 feet. Same company has a rig in for No. 3 Howard B. Fawcett farm, Section 17. Fred Brendall and others are drilling No. 4 J. C. Steiner farm, Section 16; No. 1 J. W. Hines farm, Section 9, besides nine other wells in the same township. Same parties have rigs up ready to start for No. 1 Emma P. Smith farm, Section 11, and No. 7 on the Lake Cable Co. farm, Section 14, in the same township. Fulton Oil & Gas Co. is drilling No. 3 Henry E. Rudy farm, Section 6, and W. F. Shetler has a rig up for No. 1 on the A. L. Funk farm, Section 22, Jackson Township.

Collins and others are drilling a wildcat on the Henry Leggett farm, Section 24, Orange Township, Carroll County.

At last report the test of the East Ohio Gas Co. on the H. Starkey farm, Section 29, Paris Township, Stark County, was down to 5,285 feet.

On the outer edge of the Central Ohio Field, and in Meigs County, the Vulcan Gas Co.'s No. 3 M. F. Johnson farm, Section 35, Salisbury Township, is a light gas well in the Maxon sand at a depth of 853 feet. Doctor Gribble and others' No. 2 Mittie Lyman Estate, same section, is an average gas well in the Maxon sand at 865 feet, and same parties have a machine on a location for No. 1 on the Edgar and Nellie Norris farm, same section, but work has been held up for some time.

INDIANA

Eight completions were reported from the various areas of Indiana of which two were producers with an initial of 30 bbls., three dry holes and three gas wells. During the spring season the indications are that more activity will be shown over the Hoosier state, as there is a large area that has not been touched by the drill.

In the southern section of the state, in Spencer County, the Santa Fe Oil Co.'s No. 4 Mary Berg farm, NW Section 11, is reported good for 20 bbls. the first 24 hours and I. A. Polhamus' No. 3 William Grass farm, in the same section of Huff Township, is reported good for 10 bbls.

Daviess County reports one completion, Ben D. Ruble's No. 1 on the Home Building & Loan Co.'s property, SW Section 27, Harrison Township, which was dry at 660 feet. Amsler & Gilmore are drilling a second test on the Alva C. Smith farm, SE Section 4, same township; also still working on the No. 1, same farm.

In Perry County, southern part of the state, Fred Conyers' test on the Jerome Cassidy farm, NW Section 30, Clark Township, is a duster.

In Henry County, Delph & Chew's test

(Continued on Page 65)

Five Oil Producers in Eastern Fields

Seven Gas Wells Completed in West Virginia. Test in Quemahoning Township, Somerset County, Pennsylvania Is Disappointing

By Staff Correspondent

PITTSBURGH, Pa., Jan. 18.—The three divisions of the eastern fields reported 142 bbls. of new production from five wells. Seven gassers, all in West Virginia, were also reported. This division also had two dry holes, and Southeast Ohio and Southwest Pennsylvania each reported one dry hole. Producing wells completed during the week totaled 12, and dry holes numbered 4.

SOUTHEAST OHIO

A combination well is the result of a test operation by the Mid-East Gas Co. and others on the Homer Caywood farm in the southwest quarter of Section 11, Reading Township, Perry County. This well was drilled down to a depth of 3,085 feet and was completed in the Clinton sand. From this depth and formation it is producing 250,000 feet of gas, and its oil production for the first two hours after shot was 8 bbls. The opinion is that this well will be good for about 100 bbls. a day.

In Medina County the E. R. Edson & Son Co. continued to increase its string of fine wells completed in the shallow sands of this county, by completing No. 31 on the George W. Packard No. 1 lease on Lot No. 4, Section 13, Chatham Township, after drilling to 435 feet. Production for the first day after shot was 30 bbls. A 3-bbl.-per-day producer is the production of No. 4 of Heines and others on the William M. Geisinger farm on Lot 10, Section 9, Chatham Township. This well was completed at 500 feet.

The Preston Oil Co. completed No. 13 on the C. K. McCarty farm in the southwest quarter of Section 2, Washington Township, Hocking County, at a depth of 2,860 feet in the Clinton sand as a 5-bbl.-per-day producer after shot.

The Wehrle Co. found the Clinton sand on the Flint Ridge Coal Co. tract in Lot 3, Hopewell Township, Licking County, dry in a test operation.

WEST VIRGINIA

The West Virginia total of seven gas wells includes one well producing 1,000,000 feet. This is the Reedy Oil Co.'s No. 4 on the L. M. Riddle and others' farm in Curtis district, Roane County. This well was completed in the Salt formation.

In Boone County the Columbia Carbon Co. brought in its No. 13 on the Bull Creek Land & Coal Co. tract in Peytonia district as a fair gasser from the Berea sand at a depth of 2,061 feet. The Pure Oil Co.'s No. 55 on the Federal Coal Co. tract in Sherman district is producing close to 500,000 feet of gas a day from a depth of 2,935 feet. The Owens-Illinois Glass Co. has a light gasser in No. 5 on the J. E. Powell and others' property in Washington district. This is a Berea sand well from 2,322 feet.

The test of the Martin Gas Co. on the Settie Hager farm in Sheridan district, Lincoln County, came in as a light gasser from 1,945 feet. Ed Hess and others have a light gasser in their No. 3 on the John Evans farm in Lee district, Calhoun County, from the Injun sand at a depth of 2,255 feet.

Grosscup and others completed a test well on the S. M. Burdett farm on the waters of Coopers Run, some 2 miles northeast of the Elk River and in Elk district, Kanawha County, as a 150,000-foot gasser. It was completed after being drilled to a depth of 4,700 feet.

In Raleigh County, Godfrey L. Cabot's No. 3 on the Beaver Coal Co. tract in Trap Hill district was completed as a dry hole after the drilling tools had been sunk to a depth of 3,465 feet. The test of the West Penn Gas Corp. on the Charlie Taylor farm in Battelle district, Monongalia County, was likewise dry, and from the Gordon stray sand at a depth of 3,410 feet.

Riley Yeater has a 4-bbl. producer in a test operation on the Nova McKinney farm in Grant district, Doddridge County. This production is from the Big Injun sand at a depth of 2,077 feet. There was a showing of gas from 1,980-85 feet at 2,055 feet. Gas and oil were encountered at 2,063 feet.

Drilling in West Virginia

In Lincoln County the Cambridge Gas Co. is drilling at 1,060 feet in its second test on the A. M. Mullens farm in Jefferson district, and the United Fuel Gas Co. is down 896 feet in its No. 8 on the Courtney Land Co. tract in the same district. In Union district the Hamlin Natural Gas Co. is rigging up on the Roy and Hal Adkins farm, and the Woodall Gas Co. has its second test on the Charlie Honaker farm at 760 feet. The Campbell Drilling Co. is down 1,587 feet on the Thomas P. McMellon farm in Sheridan district. A. W. Wiley is the owner of the minerals under the McMellon farm. H. H. Dial is setting a machine to test the Claude Peyton farm in the same district. The test on the Nona Johnson farm belonging to the Kanawha Gas & Utilities Co. is drilling at 900 feet, and the same company had made a location for a third well on the W. W. Carroll farm in Carroll district. The test of Frank Yates on his own property in Harts Creek district is shut down at 1,810 feet.

The United Fuel Gas Co. is drilling at 3,770 feet in its No. 4,324, located on the Central Trust Co. tract in Warfield district, Mingo County, and at 1,425 feet in No. 4,329 on the same tract. No. 4,331 of this company on the Cotiga Development Co. tract in Hardee district is shut down at 2,645 feet.

In Peytonia district, Boone County, the Owens-Illinois Glass Co. has a rig standing for No. 7 on the Broun-Cochran tract. The same operators have the rigs and tools on the ground for two wells in Scott district, No. 21 on the Cassingham and others tract, and a second test on the S. M. Wheeler farm. In Washington district it has constructed a rig and has the tools on the location for No. 13 on the Little Coal Land Co. tract.

The Pure Oil Co. has constructed a rig for No. 256 on the Williams Coal Co. tract in Sherman district, Boone County, and has chosen a location for No. 42 on the L. R. and P. tract "A" in the same district. No. 56 on the Federal Coal Co. tract in the same district is drilling at 1,441 feet. The second test of the Cambridge Gas Co. on the C. C. Lewis heirs farm in Scott district is drilling at 912 feet. The Hill Gas Co. has its second test on the J. Albert Covert farm in Washington district down to a depth of 340 feet.

The Owens-Illinois Glass Co.'s Nos. 20 and 21 in Sherman district, Boone County, are rigged up on the Peytonia Coal Land Co. tract. Godfrey L. Cabot has constructed a rig for No. 46 on the Federal Coal Co. tract in the same district.

(Continued on Page 59)

FEATURES of

The BREWSTER *Automatic* CORE BARREL

THIS automatic feature consists of a means of washing the inner barrel clean. The water is allowed to pass through this barrel until all foreign substances are washed out; when the operation of coring begins the ports in the inner barrel are automatically closed, allowing the fluid to pass around the inner barrel to the bit.

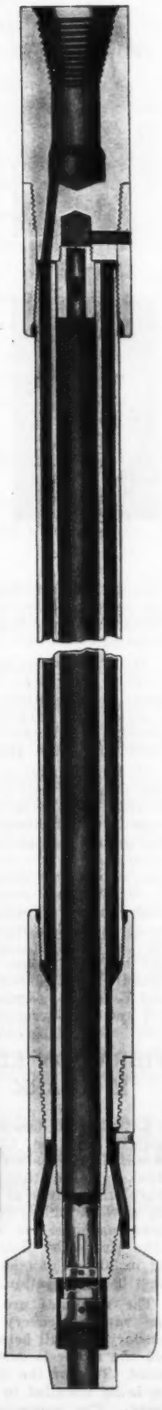
Another feature is the position of the valve in the top of the barrel, which is arranged to prevent the pressure from holding the ball down, so that in soft sand coring there is no resistance on the inner barrel, thus allowing soft sand cores to enter the barrel. A vent is provided to allow fluid and air to pass out of the inner barrel.

These features are very desirable and fill a long felt want where soft sand and other coring is necessary.

In either soft or hard formation a full recovery is assured. Made in all sizes and any length.

This barrel is equipped with split liners the same as Type C and Type M barrels.

Automatic Core Barrel



Core Barrel Equipped With Roller Bit.

Type "M" Cutter Head

The Brewster COMPANY~INC.
Shreveport, Louisiana

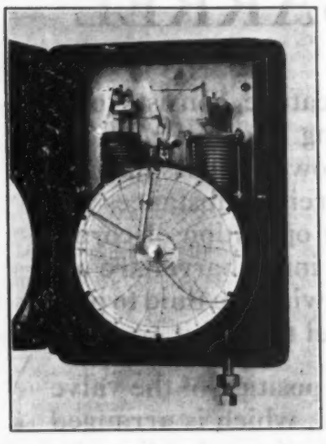
Warehouses: The Iverson Specialty Co., Oklahoma City, Oklahoma, Phone 2-2833; The Brewster Houston Store, 2000 Harrington Street, Capitol 2031.

Export Distributors: Acme Well Supply Company, Inc., 136 Liberty St., New York City.

Oil Industry Equipment and Supplies

OFFER DIRECT-READING STYLE PRESSURE GAUGE

A new direct-reading, single-pen absolute pressure gauge of the recording type has been developed by the Bristol Co., Waterbury, Conn. The use of high vacuum is an important factor in many production processes and this instrument eliminates confusion or delay resulting from applying barometric corrections to vacuum readings. It can be furnished for ranges as low as 0 to 50 millimeters



head of mercury pressure absolute or equivalent. Such an instrument gives important information for purposes of control in connection with operation of turbo condensers, vacuum oil stills, vacuum retorts in chemical plants, etc.

The actuating mechanism consists of two extremely sensitive diaphragm elements. One is connected to the vacuum line, and the other is directly affected by barometric pressure variations. The resulting movements of these elements are transmitted by a differential transmitting linkage to a single pen-arm which permanently records on a suitable chart. The case for housing the instrument is all metal, attractive in design and of rugged construction. It is available for surface or flush mounting.

AUTOMATIC OILING SYSTEM

A novel automatic oiling system for industrial machinery and automobile chassis has been developed by the Motor and Plane Accessories, Inc., of Detroit, Mich. This device operates electrically without pump or other moving parts. It consists of an oil tank made by the Westinghouse Electric & Manufacturing Co. equipped with a heater unit which is separated from direct contact with the oil. When the machine that is to be lubricated is started, the Westinghouse electric heater unit inside the tank is automatically turned on. The temperature of the oil is raised which causes expansion and forces oil out of the tank to the bearings where proper metering devices control the flow of oil. After the temperature has reached 150 degrees a thermostat breaks contact and allows the oil to cool to 100 degrees. At that temperature the thermostatic switch again makes contact. During the cooling process a vacuum occurs which is utilized to refill the tank from a central supply or reservoir.

Alco Products, Inc. (division of the American Locomotive Co.), New York, which manufacture a wide range of equipment for the oil industry, has prepared a comprehensive catalog composed of bulletins in a loose-leaf binder.

AMONG THE EQUIPMENT HOUSES

The annual convention of the Gas Products Association will be held at the Lake Shore Athletic Club in Chicago on Friday and Saturday, January 22 and 23. The Keynote will be "Forging Ahead During the Depression."

William E. Umstattd has been made executive vice president of the Timken Roller Bearing Co., Canton, Ohio. Mr. Umstattd has been with the Timken organization 13 years, during the last two years of which he was factory manager.

A. G. Bradbury, district manager for the International-Stacey Corp., has been transferred from Jackson, Mich., to the Fisher Building, Detroit, Mich. He will handle International-Stacey products in this territory.

The board of directors of the General Refractories Co., Philadelphia, Pa., has made F. L. McManus vice president in charge of traffic, D. M. Thorpe vice president in charge of sales, and L. Tschirky vice president and assistant to president.

The Packing Engineering Corp., formerly the Paxall Co., Inc., of 23 East North Avenue, Cranford, N. J., manufacturers of plastic packing, announces its change of name. The new name is said to have been adopted as more clearly descriptive of the company's activities.

H. H. LaMent, vice president of the Sharples Specialty Co., centrifugal engineers, announces the appointment of Carl J. Lamb as New York district manager. Mr. Lamb, a former naval officer, was formerly in the service, engineering and sales department of the Westinghouse Electric & Manufacturing Co.

The Babcock & Wilcox Co., 85 Liberty Street, New York, announces a further consolidation of its resources and facilities with those of the Fuller Lehigh organizations. The sales offices of the two companies have been combined and all business of these companies will be done in the name of the Babcock & Wilcox Co. through its district sales offices.

The Northern Equipment Co., Erie, Pa., has appointed the Hopton Co., 404 Denison Building, Syracuse, N. Y., as representative.

Two promotions in the technical staff of the International Nickel Co., Inc., are announced. T. H Wickenden, since 1922 in charge of the company's development work in the automotive and aeronautical fields, has been appointed assistant manager of development and research. H. J. French, since 1929 a member of the company's research staff in Bayonne, N. J., has been transferred to the development and research department in New York to take charge of development work in steel and iron.

New offices have been established by the Merco Nordstrom Valve Co. in the Chamber of Commerce Building, Cincinnati, Ohio. The Charleston, W. Va., office is being closed.

The George P. Reintjes Co. of Kansas City, Mo., designer and builder of boiler and still brickwork, will be represented by S. M. Stevens of the Stevens Asbestos Products Co., 1235 South Florence Avenue, Tulsa.

Capt. Frank M. Hawks, aeronautical advisor for The Texas Company; J. D. (Duke) Jernigin, superintendent of aviation, and five other pilots of the company, left New York, January 4 for a lubrication supply survey of the network of Transcontinental & Western Air, Inc.

Chester H. Lang, formerly assistant manager of the publicity department and then comptroller of the budget of the General Electric Co., has been appointed manager of the publicity department to succeed Martin P. Rice, who retired December 31 after more than 37 years of service with the company.

Appointment of S. G. Mitchell as advertising manager of the Federal Motor Truck Co., Detroit, Mich., is announced. He has been with the Federal organization since 1913, with the exception of a year and a half service in the World War.

Lukenweld, Inc. (division of Lukens Steel Co. of Coatesville, Pa.), has appointed two new representatives, the Welding Engineering Co., 2872 North Forty-first Street, Milwaukee, Wis., and Marvine Gorham, Jackson Building, Buffalo, N. Y.

PIPE DESIGNED TO MEET HIGH-PRESSURE DEMANDS

To meet the need for a joint that is gas-tight under high pressures the Central Foundry Co., Graybar Building, New York, has developed the Universal pipe joint, which is said to assure double safety against leakage.

The new Universal Dual-lok joint pipe retaining the characteristics of the Universal pipe tight, flexible, machined iron-to-iron joint, is reinforced by a tight, flexible, nondeteriorating gasket designed to provide a double safety factor against leakage. While especially designed for high-pressure work, it may be economically used for low and intermediate pressures.

The pipe, cast in sand molds, is made in standard 6-foot lengths. The design of the joint and its accurate machining provide for the laying of the pipe out of line and permits contraction, expansion and deflection without leakage. The machined joint is reinforced by a flexible gasket.

TIME DELAY SWITCH IS DEVELOPED BY LINCOLN

A new time delay switch, unaffected by temperature changes or operating conditions, has been developed in the laboratories of the Lincoln Electric Co. of Cleveland, Ohio, manufacturer of "Linc-Weld" motors and "Stable Arc" welders. The operation of this switch may be likened to the hour glass, since its principle is the slow movement of mercury from one chamber to another.

The device is mounted in connection with the contractor switch so that when this main switch goes in the delay switch is changed immediately to a vertical position, and vice versa when the main switch is thrown off.

This type of switch can be built for an accurate time delay of 2 to 20 seconds. Totally enclosed, it is not affected by temperature variations, dust or other harmful atmospheric effects. It can be used in various applications. At present it is built into the Lincoln automatic induction controller.

MEN KNOWN *in* THE EQUIPMENT FIELD

Changes in the duties of several members of the company's petroleum division are announced by C. B. Irish, vice president of the Leader Iron Works, Decatur, Ill. Mr. Irish himself, who has been connected with the organization for more

C. B. Irish

W. F. Statham

C. F. Koenig

C. S. Whitman

than 20 years, is supervising director of the company's activities in both the refining and marketing branches of the oil industry.

W. F. Statham is in charge of engineering and design of refinery and natural gasoline plant equipment. Previously he was with Empire, Pierce, Independent, Pan-American, Southwestern Engineering and Imperial Oil.

C. S. Whitman and C. F. Koenig are now devoting their full time to field engineering. Both have been with the Leader organization for years and both have a background of practical and technical experience in the industry. Mr. Whitman's previous connections were with E. B. Badger & Sons, Kellogg, Independent, Pierce, Sinclair and Transcontinental. Mr. Koenig flew with the German air force during the war and since has been connected with the petroleum industry in this country and in Brazil and Venezuela, serving with Shell, Standard and Southwestern Engineering.

VIBRATION ELIMINATED IN CLARK COMPRESSOR

A balanced opposed compressor announced by the Clark Brothers Co. Olean, N. Y., has a two-throw 180-degree crankshaft, so that the inertia forces cancel themselves at the crankpin, making a vibrationless compressor. Some of these machines are in operation in the Lake Maracaibo district mounted on piling in 30 feet of lake water, where there must be no vibration.

The machines are especially adapted for vapor recovery service where a masonry firewall between the compressor and the motor is desired as a fire safeguard. Two of the 500-horsepower sizes are being installed in a large eastern refinery. The company has prepared a bulletin describing the compressor.

PIPING engineers and contractors who have designed and installed welded piping systems say that the presence of tangents and their length is one of the most important considerations in the selection of a type of welding ell. They all agree that tangents are highly desirable—particularly long tangents (exclusive with Midwest Welding Ells).

Here are the principal advantages of these longer tangents (¼″ for each inch of nominal diameter; a 12″ Midwest Ell has tangents 3″ long):

1. Pipe and ell are lined up more quickly and accurately —thus reducing installation time and cost.
2. Weld is removed from point of maximum bending stress.
3. Less pipe is needed (a 12″ Midwest Ell saves 6″ of pipe).
4. Short nipples and the extra welds they require are frequently eliminated.
5. Welds are more accessible.
6. Flanged ells are made with slip-on flanges that are welded front and back. This is impossible with welding ells having short tangents or none at all.

Other Important Advantages

Midwest Welding Ells have a long radius (1½ times the nominal diameter) instead of a short radius (one diameter) for these reasons:

1. Pressure drop is much less.
2. Less pipe is used (a 12″ Midwest Ell saves 12″ of pipe not including the 6″ saved by the long tangents).
3. Greater welding convenience that saves time.

The Midwest design and manufacturing process assure greater dimensional accuracy, true circular cross sections and uniform wall thickness not less than the nominal pipe wall thickness.

Midwest Ells have great strength. In a series of destruction tests to compare the strength of Midwest Ells with the pipe with which they are used, the pipe ruptured in each instance while there was no evidence of failure in any of the Ells.

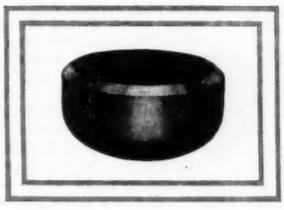
• • •

Midwest Welding Ells are made from the same material as mild steel pipe; standard weight are in stock from 2″ to 16″, and extra heavy from 2″ to 12″. They are also made from Reading Puddled Iron; sizes at present are 2″ to 10″ in both standard and extra heavy weight.

Ask the nearest Midwest office for a copy of Bulletin WF-2 which contains complete data on Midwest Ells and the other Midwest Welding Fittings at the righ..

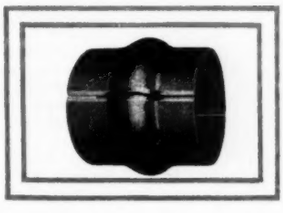
Here are other Midwest Welding Fittings that also help reduce the cost and improve the design of many types of piping systems.

MIDWEST WELDING HEAD



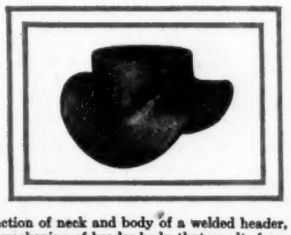
The ellipsoidal form reduces unit stress in the metal to a minimum. The long tangent puts the circumferential weld to the pipe entirely in tension —it is not subjected to shear and bending. Application is much easier and a neat appearing job is assured. Standard weight and extra heavy Heads carried in stock from 3″ to 24″.

MIDWEST WELDING SLEEVE



Used to reinforce a butt line weld between two pieces of pipe, it relieves the butt weld of any bending stress and much of the tensile stress to which it would otherwise be subjected. Transverse recess in sleeve permits its application over the conventional butt line weld. Sleeves are carried in stock from 4″ to 24″.

MIDWEST WELDING SADDLE



It not only reinforces the junction of neck and body of a welded header, but also compensates for the weakening of header body that results from loss of the metal cut out for the neck opening. Tests proved this saddle materially increases the strength of a welded header over customary gusset plate construction. Made in sizes from 4″ x 2″ to 24″ x 24″.

Midwest Piping & Supply Co., Inc.

Main Office: 1450 South Second St., St. Louis

Offices: Chicago, 208 South La Salle Street . . . Houston, 600 Bringhurst Street . . . Los Angeles, 520 Anderson Street . . . New York (Ballwood Division), 30 Church Street . . . Tulsa, 733 Mayo Building

THE GREATER MIDWEST PIPING SERVICE

OKLAHOMA FIELDS

(Continued from Page 34)

acre tract in the W half N half NE, Section 25-14-4w.

Landowners and royalty owners around the test were contributing royalty interests to aid in financing the well. The location is approximately 2½ miles northwest of the discovery well, No. 1 Messer, which is estimated to be good for 700 bbls. a day. It has never been put on production although completed more than a year ago.

Attempts to unitize the area around the No. 1 Messer have all failed but an agreement was made to withhold all drilling development until the market demands warrant opening the well.

New Wells in Capital Field

Another producer was added to the Oklahoma City Field when Tom Slick Oil Co. and Urschell's No. 7 Classen-Edwards, SE cor. SW SW, Section 3-11-3w, flowed 3,931 bbls. of oil in four hours. The gas was estimated at 25,000,000 feet a day. The Wilcox sand was found at 6,363-6,400 feet. Other tests preparing to make a production gauge are, Phillips Petroleum Co.'s No. 1 M. Brittain, NW cor. NE SE, Section 35-12-3w, which is bailing down from a total depth of 6,400 feet. The casing was landed at 6,216 feet. Phillips Petroleum Co. and others' No. 1 Classen, SE cor. NW, Section 15-11-3w, was also bailing down. The total depth was 6,450 feet and the casing was landed at 6,385 feet.

Three locations were staked in the Oklahoma City Field late in the week, Wilcox Oil & Gas Co. and others' No. 1 Sinopoulo, S half SW NE SE, Section 34-12-3w, in the north end of the field. The test will be located on Block 21 of the Phillips-Mead Addition. Refineries Producers Co.'s No. 1 M-K-T in the C S half SW SE, Section 34-12-3w, located on Block 5 of East Grand Avenue Addition. Haynes Brothers' No. 1 Little, NE cor., Section 27-11-3w, on the west side of the field, almost a twin well to the Indian Territory Illuminating Oil Co.'s No. 1 Little, was completed as a producer.

Plains Files Petition

Equitable taking of oil from the Oklahoma City Field and Greater Seminole area is asked by the Plains Petroleum Co. in a petition filed with the Oklahoma Corporation Commission. The petition alleges the proration orders, fixing the allowable production of oil in the different fields in the State is contrary to both the Federal and Oklahoma constitutional law and that adjustments be made between the Oklahoma City Field and Greater Seminole districts.

The petition has been set down for a hearing January 26, at which time the commission will hear protests on the recent proration order, which reduced the allowable of the Oklahoma City Field to 120,000 bbls., from 160,000 bbls. a day.

B. G. Patton, president of the Plains Petroleum Co., in a signed statement appealed to the other operators in the Oklahoma City Field, and citizens of the State for support. The Plains petition cites the commission's previous proration orders to show that the Greater Seminole area's potential is 294,273 bbls. a day and that the allowable has been fixed at 135,000 bbls., a day, or 44 per cent, and that the Oklahoma City Field has an adjusted potential of 3,152,000 bbls. a day and the allowable fixed at 120,000 bbls. a day, or 3.71 per cent.

The petition asserts that the former orders "are contrary to the statutes of the State of Oklahoma empowering the corporation commission to prevent unreasonable discrimination in favor of one common source of supply."

Pointing out that, when the early proration orders were made for the Oklahoma City Field there was an insufficiency of pipe line and transportation facilities, the petition shows that there is now a pipe line capacity of approximately 340,000 bbls. a day and a loading rack capacity of 135,500 bbls. a day, making a total outlet of 475,500 bbls. a day, yet the largest oil shipment made to date was approximately 285,000 bbls. in a single day.

One other point the corporation commission is asked to consider is the claim that almost every well in the Greater Seminole Field has produced enough oil not only to pay its original cost, but to permit profits from the properties. The Oklahoma City Field was three years old December 4, 1931, and has produced only enough oil to return less than one-third the cost of development.

In Southwestern Fields

Under the new proration order effective January 1, the per well allowable in the Tatums Pool, in Carter County, has been reduced to 85 bbls. daily for wells making 500 bbls. or more per day. The allowable for wells making from 100 to 500 bbls. daily was reduced to 42½ bbls. daily. This lowers the percentage of the allowable to 15 per cent for all production in the pool.

A drilling campaign is expected to develop in the area southwest of Duncan in Stephens County following the completion of a wildcat well in new territory 5 miles south and 2 miles west of the town of Duncan. The well is P. L. Gilbert and others' No. 1 Dare, SW cor. NW SE Section 2-2s-8w, which started flowing and is estimated at 160 bbls. a day from sand at 1,362-68 feet. The owners believe the well is a better producer than J. C. Chambers and others' No. 1 Dare, a location to the north, which recently made 100 bbls. on its initial production gauge.

Continental Oil Co.'s No. 1 Dare, NE cor. SW SE Section 2-2s-8w, has cemented casing at 1,360 feet on top of the pay sand. The test is the south offset to the Chambers well.

To the north of the discovery well, M. C. Brown and others' No. 1 Thompson, NE cor. SE SW Section 35-1s-8w, were preparing to drill the cement plugs on top of a sand found at 1,676-79 feet. The test missed the 1,360-foot pay horizon and drilled deeper. The good showing of oil was found at 1,676-79 feet. The test is located on the east side of the old Empire Field and indicates the area will be explored.

Carter Oil Co.'s No. 1 Monett, SW cor., Section 35-7-4, in southern Pottawatomie County, was swabbed and made 96 bbls. of oil in six hours. The oil showing increased with deeper drilling at 4,237-45 feet and the total depth is 4,260 feet. The oil stands approximately 2,500 feet in the hole.

About a half mile south of the Carter Oil Co.'s test the Mid-Continent Petroleum Corp.'s No. 1 Farmer, SE cor. SW NW, Section 2-6-4, Pottawatomie County, was shut down waiting for cement after landing casing at 4,385 feet. A showing of oil was believed to have been found in the Wilcox sand at 4,218-20 feet. There was 3,500 feet of water in the hole when the Wilcox sand was topped.

Another producer was added to the Fish Pool. Empire Oil & Refining Co.'s No. 1 Davis, NW cor. NE NE, Section 30-7-8, Seminole County, flowed 315 bbls. of oil in nine hours from the pay horizon at 2,999-3,001 feet.

Several tests were nearing completion in the Carr City Pool. Gypsy Oil Co.'s No. 7 Coker, NW cor. SW SW, Section 2-8-5, found a showing of oil in the Hunton lime at 3,963 feet. It found the Viola lime at 4,060 feet and was landing the 8-inch casing at 4,075 feet.

In Okmulgee County

In the eastern part of Okmulgee County, an old gas well was drilled deeper and was showing for a 200-bbl. producer. The well was W. B. Pine's No. 1 Bradford, CEL NE NE Section 1-12-13, which has been producing gas for several years and recently started spraying oil. The well was drilled 2 feet deeper and showed no change. It was then drilled a foot deeper and the oil started flowing and the gas increased to 4,000,000 feet a day. The well gauged 8 bbls. of oil an hour. The oil tests 38 gravity corrected. Additional storage tanks are being erected on the lease, making a total of 750 bbls. of storage at the well. The old total depth was 2,730 feet, and the present depth is 2,733 feet.

A new location has been staked southeast of the well by A. D. Kennedy and others for No. 1 Daniels, NW cor. SW Section 6-12-14, McIntosh County. Material will be moved in at once. The discovery well is along the boundary line of Okmulgee and McIntosh Counties.

Penrod and Thompson's No. 1 Barnett, SE cor. Section 19-12-14, is a producer being rigged up to drill deeper. The present total depth of the well is 2,833 feet in Wilcox sand and the owners expect to drill the test to the Turkey Mountain sand below 3,000 feet. The well has been shut down because of its small production.

Seminole Production

The production of Greater Seminole area for the week ending January 16, was approximately 148,060 bbls., compared to 143,375 bbls. the previous week. The Seminole Field, which includes the first 12 pools listed below, averaged 109,340 bbls. a day:

Pool—	Bbls.
Little River	17,390
East Little River	4,050
Carr City	11,935
Maud	1,915
Mission	7,695
Bowlegs	13,260
Earlsboro	14,305
South Earlsboro	1,990
East Earlsboro	14,050
Seminole	17,885
East Seminole	1,275
Searight	3,590
Total	109,340
Allen	9,890
Asher	660
Wanette	2,785
Konawa	5,180
Sasakwa	1,705
St. Louis-Pearson	18,500
Total	148,060

Bryan County

M. A. Neff and others' No. 2 Farris, NW cor. SE, Section 29-6s-7, has been abandoned at 950 feet.

Carter County

H. L. Sturm and W. Gant's No. 1 Hooks, SW cor., Section 18-1s-2w, is a rig. Carter Oil Co. made location for No. 1 Lynn, SW cor. SE NE, Section 31-1s-2w. Don Phillips and others' No. 1 Lyles, SE cor. SW NE, Section 28-2s-2w, is dry and abandoned at 1,704 feet.

Creek County

Gled Oil Co. moved a machine in for No. 2 Holmes, SW cor. NE, Section 25-19-8. Roy Dean and others' No. 1 Lashley, NW cor., Section 19-19-9, is a rig. Gled Oil Co. has a machine on the location for No. 3 Hollingsworth, SE cor., Section 20-19-9. Johnson Oil & Refining Co.'s No. 1 Johnson, NW cor. SE NE, Section 29-19-9, is a machine rigging up. Bert Swift and others' No. 1-A Nave, SE cor. NW, Section 1-18-8, is a machine rigging up. H. E. Dowd and others' No. 1-A McIntosh, NW cor. NE NW, Section 13-17-11, is a machine moving in. J. H. Wright estate's No. 2-A Cartwright, SE cor. SW NE SW, Section 19-17-11, is spudding. Magnolia Petroleum Co.'s No. 9 Nora Williams, NE cor. NW NW, Section 10-16-7, is an old well rigging up to deepen from 2,595 feet. Gled Oil Co.'s No. 2 Reabe, SW cor. SE SW, Section 25-19-8, has been completed for 919,000 feet of gas in Skinner sand 2,198-2,238 feet after plugging back from 2,470 feet in Bartlesville sand. C. O. Buckles and others' No. 2 Coonrod, SE cor. NE SW, Section 3-19-9, has been abandoned at 2,295 feet. Bryan Petroleum Co.'s No. 1 Boyd, NW cor., Section 28-19-9, made 35 bbls. in Skinner sand 2,101-38 feet, total depth 2,150 feet. Jake Glen and others' No. 1-A Miller, NE cor. NW SW, Section 3-17-10, is dry and abandoned at 1,098 feet. Bryan Petroleum Co. and Oklahoma Natural Gas Corp.'s No. 1 W. Fulsom, NW cor. NE SE, Section 32-17-11, has been completed for 500,000 feet of gas in sand 526-50 feet.

Haskell County

A. W. Ault's No. 1 Harrison, CWL SW NE, Section 14-9-19, is a dry hole at 635 feet.

McIntosh County

Handfield P. & R. Co.'s No. 2 V. Bray, C NE NE, Section 10-12-15, has been abandoned at 2,102 feet.

Muskogee County

J. V. Dunbar and others' No. 1 P. McIntosh, SW cor. NE SE, Section 4-15-18, is a machine. E. W. Ladd and others' No. 1-A B. Taylor, NW cor. SW SW, Section 20-16-15, is spudding. Mack Drilling Co.'s No. 1-A M. Richardson, NW cor. NE SW, Section 34-16-15, is rigging up. Taylor & Geiger's No. 1 F. Tucker, SE cor. NE NW, Section 15-15-15, has been completed for 900,000 feet of gas in sand 785-865 feet. Newokla Oil Co.'s No. 1 I. Lyons, C SW SE, Section 26-14-17, is dry and abandoned at 2,190 feet.

Oklahoma County

H. F. Wilcox Oil & Gas Co. and Greenland Oil Co.'s No. 1, Block 21, Phillips-Meade Addition to Oklahoma City, SW cor. NE SE, Section 34-12-3w, is a rig under construction. Government Petroleum Co.'s No. 1 White, SE cor. SW SE, Section 3-11-3w, has been completed for 7,117 bbls. in seven hours, producing from Wilcox sand topped at 6,287 feet, total depth 6,409 feet. T. B. Slick estate's No. 1 Central, SE cor. NE SE, Section 3-11-3w, had Wilcox sand 6,180-6,295 feet, total depth 6,401 feet and made 478 bbls. Continental Oil Co. and Anderson and Kerr's No. 1 Black, NE cor. NW NW, Section 10-11-3w, topped Wilcox sand at 6,381 feet, drilled to total depth 6,517 feet and was completed for 5,339 bbls. in four hours.

Okmulgee County

Penrod & Thompson's No. 1 S. Barnett, SE cor., Section 19-12-14, is an old well rigging up to deepen from 2,760 feet.

Osage County

Producers & Refiners Corp. made location for No. 1, SE cor. NW NE, Section 24-24-7.

Pawnee County

Katherine Oil Co.'s No. 2 Walls, CEL NW NE, Section 5-20-8, is dry and abandoned at 3,027 feet after being deepened from 2,350 feet. H. D. Hambley and others' No. 1-A Baker, SW cor. NW SE, Section 35-20-9, has been completed for 80 bbls. in Red Fork sand 2,005-33 feet.

Pittsburg County

Utilities Production Co.'s No. 1 Church lot, NE cor. NW NE, Section 16-7-18, is drilling at 1,220 feet. J. L. Pattison and others' No. 1 C. McDuff, SW cor. NW SE, Section 32-9-16, has been abandoned at 5,902 feet.

Pontotoc County

Pioneer Petroleum Co. made location for No. 1 Bayne, SE cor. SW SW, Section 16-5-6. Edna Marie Oil Co.'s No. 1 Walker, SW cor. SE NW, Section 22-5-6, is a location. Rabial Oil Co. made location for No. 1 Norris, NE cor., Section 28-5-6. Barnsdall Oil Co. and others' No. 1 Hart, NW cor., Section 27-5-6, has been completed for 165 bbls. in sand 1,689-1,700 feet.

Seminole County

Empire Oil & Refining Co. and others' No. 2 Fish "D," SW cor. SE SE, Section 19-7-8, flowed 1,174 bbls. from sand 3,008-36 feet.

Stephens County

George L. Pace and others' No. 1 Mullins, SW cor., Section 35-2s-5w, is drilling at 878 feet. E. L. Dameron and Brant's No. 1 Dameron, SE cor. SW NE, Section 11-3s-6w, is drilling at 231 feet.

Wagoner County

J. E. Martin and others' No. 2 A. Drew, NW cor. SE, Section 26-18-15, has been completed for 40 bbls. in sand 1,040-53 feet, total depth 1,061 feet.

STANOLIND TEXAS OFFICES

FORT WORTH, Tex., Jan. 18.—The Stanolind Oil & Gas Co. has consolidated offices with the Stanolind Crude Oil Purchasing Co., and Stanolind Pipe Line Co., the former moving from the Medical Arts Building and the latter two from the Fort Worth National Bank Building, to the Cotton Exchange Building, Fort Worth. All of Stanolind's activities in Texas, including production, purchasing and transportation of oil, are to be directed from the new quarters.

FOR OIL TARIFF

FORT WORTH, Tex., Jan. 18.—Plans to aid in bringing about the enactment of a protective tariff on imported crude petroleum and its products have been begun by the Texas Oil and Gas Conservation Association on direction of a 7 to 1 vote of its board of directors.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

GASOLINE PIPE LINE LEAKS

With the building of long pipe lines for carrying gasoline is there not created a new sort of hazard resulting from leaks along the line? Such leaks are just as likely to occur as along crude oil pipe lines, I suppose, and it seems to me they might be harder to detect, with consequent increased danger of accident. What measures, if any, are taken to meet this new hazard?—E. G. F.

It is easy to magnify the hazards of transporting gasoline, either by pipe line or any other method. The fact is that with the development of the business of making, moving and marketing gasoline the necessity of safety measures has been kept in mind constantly, with the result that the tremendous growth in the volume of gasoline handled has not been attended by a proportionate increase in the number of accidents at all. On the contrary, there has been a steady diminution of accidents in proportion to the quantity of gasoline handled. Gasoline pipe lines have not been in operation long enough yet to afford statistics of high value, although such lines have been in operation in California for several years and there has been swift development recently.

The Shell Oil Co.'s natural gasoline line from the Ventura Field to Wilmington is now four years old and its experience provides some data along the line of your inquiry. An important feature in the operation of this line is the patrol. Line riding along a crude oil system is usually a somewhat routine proceeding. A crude oil leak is detected promptly because it becomes plainly visible on the ground. A gasoline leak might go unseen for an indefinite time if it were not for the watchful eye of alert line walkers. It has been found that one of the readiest means of detecting a leak in a gasoline pipe line is by noting the presence of dead vegetation over the point of the leak. In the Shell's Ventura line minute leaks have been discovered even when they were scarcely more than sweats by observing a patch of dead grass surrounded by green grass. Discovery of leaks in this way requires trained men with a sense of responsibility, but that is just the kind of men who are employed.

No difficulty on the score of hazards is said to have been encountered in California in obtaining rights of way, largely for the reason that the record of the oil industry in handling this highly inflammable fluid is excellent. When it is recognized that gasoline is being moved over highways and railroad lines day and night with relatively few accidents, it is safe to say that the transportation of the same commodity through underground pipe lines actually presents greatly lessened dangers to lives and to property.

OBJECTIONS TO USE OF AIR

The opinion is held by some oil men that the use of air in repressuring operations is likely to injure the equipment, whereas gas would do no harm. Can you tell me whether this is true?—E. Y. D.

Air used in repressuring operations is likely to have untoward effect in several ways where no unfavorable results would follow the use of gas according to petroleum engineers familiar with such operations. Among these effects are noted the following:

Corrosion of well and pumping equipment; production of an explosive air-gas mixture; dilution of gas, which results in reducing the gasoline plant recovery per 1,000 cubic feet of gas treated; reduction of the gravity of the oil, perhaps by oxidation of some of its constituents; increase in the viscosity of the oil, making higher injection pressures necessary to force an equal volume of oil through the sands; plugging of drainage channels in the sands through the formation of iron oxide deposits; increased emulsification of oil and water; and increased production troubles due to paraffin.

Although the air content of the air-gas mixture can be noted from time to time, even relatively frequent tests will not safeguard against the possibility of a sudden rush of air into the lines which may increase the percentage of air to the explosive limit. Compressing air and gas mixtures is especially hazardous in areas where electric storms are prevalent; and for this reason explosion chambers are installed in the gas lines at some plants in Oklahoma, because they are considered safeguards in preventing fire in a line from entering the compressor cylinders.

TANK CIRCUMFERENCE FORMULA

Attention has been called to a statement in the answer to a question by A. B. in the issue of December 31, 1931, relating to the deduction to make from the outside circumference of a tank in order to determine the inside circumference. The formula should have read: "Subtract .00818123 for each one-sixty-fourth inch of thickness of stave from the outside circumference of the tank expressed in feet and hundredths of feet."

Tank circumferences usually are taken with the engineers' tape graduated in hundredths of feet. If the circumference were expressed in inches, as was indicated it should be in the formula as it appeared in the answer to A. B., the inchees of course could be converted into hundredths of feet, but this would be a needless and roundabout operation.

FINDING OIL IN EASTERN OHIO

Will you please give me the titles of a few works dealing with oil well locating that are applicable to eastern Ohio? I understand instruments have been carried over the surface to indicate the presence of oil. Are these instruments to be relied upon?—A. F. S.

Following is a bibliography of eastern Ohio selected by Walter A. Ver Wieber, author of "Oil Fields in the United States":

Cottingham, K., "Structure Conditions in Portions of Eastern Ohio," A. A. P. G. 11, 945-958, 1927.

Lockett, J. R., "General Structure of the Producing Sands in Eastern Ohio." Bull. A. A. P. G. 11, 1,023-1,034, 1927.

Panyity, L. S., "Oil and Gas Bearing Horizons of the Ordovician System in Ohio." Bull. A. A. P. G. 5, 609-619, 1924.

Stout and Lamborn, "Geology of Columbiana County, Ohio." Geol. Survey, Sec. 4, Bull. 28, 1924.

Condit, D. D., "Economic Geology of the Summerfield and Woodfield Quadrangles, Ohio." U. S. Geological Survey, Bull. 720, 1923.

——— "Structure of the Berea Oil Sand in the Summerfield Quadrangle, Guernsey, Noble and Monroe Counties, Ohio." U. S. Geological Survey, Bull. 621, 1916.

——— "Structure of the Berea Oil Sand in Woodsfield Quadrangle, Belmont, Monroe, Noble and Guernsey Counties, Ohio." U. S. Geological Survey, Bull. 621, pp. 233-249, 1916.

Rogers, G. S., "Helium Bearing Natural Gas." U. S. Geological Survey, Prof. Paper, 121, 1921.

Burroughs, W. G., "Economic Geology of the Berea Sandstone of Northern Ohio." Econ. Geol. 8, 469-481, 1913.

Bonine, C. A., "Anticline in the Clinton Sand Near Wooster, Wayne County, Ohio." U. S. Geological Survey, Bull. 621-H, 1915.

Bownocker, J. A., "Rise and Decline in Production of Petroleum in Ohio and Indiana." Mining Met. Abstract 158, Sec. 1, pp 34. See also Trans. A.I.M.E. 65, 180-121, 1921.

——— "Natural Gas in Ohio." Cleveland Eng. Soc. Journal, 8, 313-332, 1916.

——— "The Occurrence and Exploitation of Petroleum and Natural Gas in Ohio." Ohio Geological Survey, Bull. 1, Ser. 4, 1903.

——— "The Oil and Gas-Bearing Rocks of Ohio." Jour. Geol. 10, 822-838, 1902.

The above list of articles dealing with eastern Ohio may not contain the particular type of information you seek, for it is obvious that if anyone knew where to locate wells in eastern Ohio or elsewhere that would produce oil and gas they would not publish the information in advance.

Nor does this department know of any instrument which when carried over the surface will indicate the presence of oil underground. Oil or gas can only be found by actually drilling the hole.

Geophysical instruments are used to obtain certain data from which it is sometimes possible to outline underground structures that may contain oil or gas. But there is no instrument in general use today that will do more, and to find the oil and gas it is necessary to drill.

If you desire to make a study of geophysical instruments it is suggested that you get a copy of "Applied Geophysics" from the director of the Science Museum, South Kensington, London, S.W. 7, England. This will cost you 2 shillings net. It contains a great number of facts about geophysical instruments, but nothing about oil-finding instruments.

You can obtain from the Ohio Geological Survey, Columbus, Ohio, copies of such literature as it has for distribution and some of it may pertain to eastern Ohio and the area in which you are interested.

WHY WAS IT CALLED THAT?

STEMMING

The term "stemming" is used by oil well shooters and persons employing explosives in quarrying or mining to describe the operation of tamping above the charge to make it more effective. One meaning of the verb "stem" is to stop or dam up, and it is supposed "stemming" came to be used in a related sense in referring to the tamping of an explosive charge.

WELL STOPS PRODUCING GAS

We have drilled several gas wells in this vicinity, all of which are producing from the Trenton sand. The last well we drilled was apparently a dry gas well when it was drilled in, so we ran a string of 2-inch tubing and set an anchor packer in the cap rock just before the sand at a depth of 1,370 feet. We found, however, that we could not shut off the gas with our packer. After several attempts we dumped 400 feet of sand pumpings on top of the packer. This of course effectively stopped all leaks. About 10 days ago the well ceased producing gas and we found it had 1,000 feet of oil in it. We are now faced with the problem of removing this oil and keeping it out of the well. We do not believe that we can pull our 2-inch tubing and packer without danger of parting the tubing. We would appreciate any information you could give us as to how to proceed in a case of this kind.—W. A. S.

More information should be in hand in order to advise you intelligently, according to the engineer to whom your question was submitted, such as quantity of oil the well makes, bottom-hole pressure, or pressure at the well head, size of well, and if cased the size of the casing, and type of packer used. Without knowing any of these things this department can make only one suggestion and this is made contingent upon the condition of the hole, the space between tubing and walls of the hole, and other general conditions at the well.

If the space between tubing and hole will permit, you can run a string of small tubing down to the top of the sand which you have dumped above the packer and then pump clear water through this string of tubing. The water will cause the sand to come up around your 2-inch string and in this way you can free the hole of sand and relieve the packer so that the 2-inch string can be pulled. The efficacy of this procedure will depend upon how tight the packer is in the hole, because you will fill the hole above the packer and sand with water and add considerable weight above the packer, but if it will hold you can clean the well of sand by this method. Once the sand is removed you should be able to make other repairs without much trouble.

If you care to give more data it may be possible to offer you more definite suggestions.

Personal Paragraphs About Oil Men

Donald E. Couty, consulting geologist, has moved his office from San Antonio, Tex., to Tower Petroleum Building, Dallas, Tex.

* * *

Murray Northrup, manager of the Alemite Corporation of Oklahoma, Tulsa, is in Chicago visiting the general offices of the corporation.

* * *

H. D. Patridge, manager of purchases, Indian Territory Illuminating Oil Company, Bartlesville, Okla., has returned from a trip to Fort Morgan, Colo.

* * *

J. S. Rollins, vice president of production, for the Shell Petroleum Corporation, St. Louis, Mo., spent a couple of days at the company's Dallas, Tex., offices during the week.

* * *

Harvey W. Edmund has joined the staff of Standard Management & Operating Corporation as assistant to Vice President H. L. Farrar, with headquarters in San Francisco.

* * *

Charles Earle, head of the automotive transportation department of the Prairie Pipe Line Company, with headquarters in Tulsa, has gone to Kansas for a short visit on company business.

* * *

S. L. Gillan, prominent California geologist and interested in Kettleman Hills acreage, has left Los Angeles for the Orient, following which he will make a six months' tour around the globe.

* * *

William J. Rogers, assistant statistician of the Independent Oil Producers Agency, Los Angeles, announced the arrival of Miss Alice Rogers at the Queen of Angeles Hospital in Los Angeles.

* * *

Wayne Harshbarger, superintendent of The Texas Company in the San Joaquin Valley, California, has returned to his field duties following an operation and completion of a short convalescent period.

* * *

J. B. Whisenant, consulting geologist and independent operator, formerly of San Antonio, Tex., but for the past year in San Angelo, is now back in Southwest Texas, making his headquarters at Laredo.

* * *

H. T. Morley, formerly manager of the exploration department of the Stanolind Oil & Gas Company, in the State of Texas, with headquarters at Fort Worth, has been transferred to Tulsa and promoted to chief geologist of the company.

* * *

Charles Buechner, district manager for Lincoln Oil Refining Company, has been transferred from La Porte, Ind., to Robinson, Ill. H. H. Highsmith, who has been located at Terre Haute, Ind., will succeed Mr. Buechner as manager at La Porte.

* * *

C. W. Simpson, a Southwest Texas operator, who has been in New York for the past few months, made a short return visit to San Antonio and is now back in New York for a short time, and expecting to return to San Antonio permanently within a month.

* * *

O. Christopher, formerly manager of the Montana Petroleum Company, of Baker, Mont., subsidiary to Minnesota Northern Power Company, has been appointed manager for Montana-Dakota Power Company, at Dickinson, N. D., replacing R. W. Petter. Mr. Christopher has been connected with the parent company for the past 12 years.

* * *

Stephen Rook, Shreveport, La., geologist, spoke on the "Stratigraphy of Arkansas and Mississippi," describing the similarity of Texas and Mississippi formation, at Texas Christian University, Fort Worth, recently. Mr. Rook is a member of the American Association of Petroleum Geologists and of the Society of Economic Paleontologists and Mineralogists.

B. O. Hammond, Cypress Tank Company, East Texas Field, was in Tulsa on business last week.

* * *

Buford Cox, of R. B. Hall & Company, Dallas, Tex., recently made a trip through Central Texas.

* * *

Fred Read of Abilene, Tex., has lately been in Southwest Texas and it is understood will locate there.

* * *

Wayne Horn, of Tulsa, has moved to San Antonio, Tex., and arranging to operate in Southwest Texas. During the past year he has been spending most of his time in East Texas.

* * *

Henry H. Timken, Jr., has been made assistant to President Fred J. Griffiths of the Timken Steel & Tube Company, Canton, Ohio. He has been serving in the capacity of assistant works manager for two years.

Men of the Industry

John G. Pew

John G. Pew, recognized throughout the United States as one of the authorities on natural gas, has retired from active service as an officer of the Columbia System.

Starting with the Peoples Gas Company, Pittsburgh, Pa., as a pipefitter's helper in September, 1886, he advanced gradually but surely until he reached the highest office in the corporation, that of president, which he retained until July, 1918. In March, 1916, he was elected president of the Sun Shipbuilding & Dry Dock Company, Chester, Pa. Subsequently, when the United States was in sore need of vessels in the World War, he resigned from the Peoples Gas Company and devoted himself to the shipbuilding industry, while at the same time he found it possible to become a vice president of the Sun Oil Company, to which office he had been elected in 1918. While he saw fit to resign as vice president of the Sun Oil Company in 1926, he retained his office as president of the Sun Shipbuilding & Dry Dock Company, which office he continues to occupy.

Mr. Pew has been vice president of Columbia Gas & Electric Corporation since 1926. At a farewell dinner his fellow officers tendered to Mr. Pew an expression of their deep regret at his retirement from active service as an officer, but rejoicing that they will continue to enjoy benefit from his counsel as a member of the board of Columbia Gas & Electric Corporation.

G. W. Christopher, assistant manager pipe sales, Youngstown Sheet & Tube Company, Youngstown, Ohio, was in Tulsa for a few days last week.

* * *

J. B. Gibson, Mid-Continent sales representative of the Birmingham Tank Company, Birmingham, Ala., is in Tulsa on a business trip.

* * *

"Bill" Wilson, for a time associated with the Edgar Tobin Aerial Surveys, is back in the oil business as an independent operator in Southwest Texas.

* * *

J. F. Eaton and R. B. Moody, both of St. Louis, Mo., have been attached to the Tulsa branch of the Jarecki Manufacturing Company as sales engineers.

* * *

O. E. Legon, field superintendent of the Tidal Oil Company in East Texas, spent several days last week at the home office of the company in Tulsa.

* * *

Fred E. Cooper, Tulsa, in charge of sales of the Rumley division of Allis-Chalmers Manufacturing Company, has gone to Milwaukee, home office of the company on a business trip.

* * *

H. S. Parmelee, who is associated with L. B. O'Neil in operations at Cut Bank, Mont., where natural gas production is being developed, left Los Angeles a few days ago for Montana.

* * *

George W. Eads, assistant purchasing agent of the Twin State Oil Company, Tulsa, has gone on an inspection and inventory trip of company properties in northern Oklahoma and Kansas.

* * *

R. L. Stewart, sales manager and W. G. Winburn, sales representative in the Southwest of the Stockham Pipe & Fittings Company, Birmingham, Ala., were in Tulsa last week on business.

* * *

Frank A. Jones, head of the automotive transport department of the Shell Petroleum Corporation, St. Louis, was in Tulsa attending the meeting of the Petroleum Motor Transport Association.

* * *

Ashley F. Ward, president and J. E. Henderson, sales representative of Ashley F. Ward, Inc., manufacturer of Wasson hammered piston rings, Cincinnati, Ohio, were business visitors in Tulsa last week.

* * *

R. D. Feltner, land man for the Stanolind Oil & Gas Company, with headquarters at Fort Worth, Tex., has been transferred to the San Antonio offices of the company, and will be in charge of the land work in that district.

* * *

John H. Clopton, consulting geologist and independent operator of San Antonio, Tex., after spending the bulk of last year in East Texas, has returned to San Antonio. He is associated with D. R. Semmes, also consulting geologist.

* * *

N. Y. Knox, of the crude oil department, Shell Petroleum Corporation, St. Louis, Mo., has been spending a month on special duty at the company's division offices at Dallas, Tex. B. C. Clardy is in charge of the Dallas division of the crude oil purchasing department.

* * *

Paul W. Fenton, purchasing agent of Tide Water Companies, has been named as vice chairman of the Oil Company Buyers' Group in the Mid-Continent area. Robert M. Ketchum, manager of purchases of the General Petroleum Corporation, Los Angeles, Calif., is chairman.

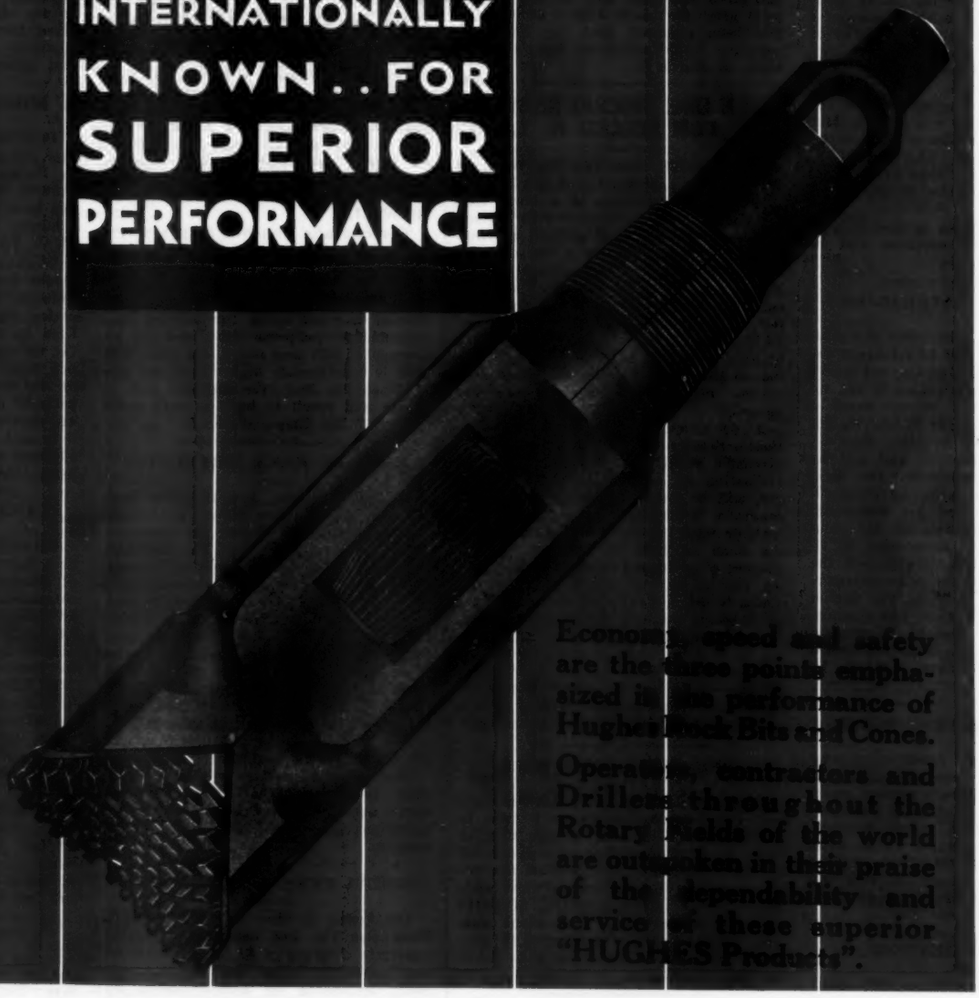
* * *

Stanley Gill, former director of the research department of the Gulf Oil Company at Houston, Tex., has opened offices in the Rush Building, Houston, where he will conduct a general consulting practice in chemical and petroleum production engineering, specializing in the prevention of corrosion of pipe line and production equipment. Mr. Gill is well known in the industry for his work and studies in connection with petroleum corrosion problems.

HUGHES ROCK BITS

+

INTERNATIONALLY KNOWN.. FOR SUPERIOR PERFORMANCE



Economy, speed and safety are the three points emphasized in the performance of Hughes Rock Bits and Cones.

Operators, contractors and Drillers throughout the Rotary Fields of the world are outspoken in their praise of the dependability and service of these superior "HUGHES Products".

HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.
Midland, Texas

Main Office and Plant
HOUSTON,
TEXAS

Export Offices
Woolworth Building
New York City

Natural Gas Industry Developments

ACTUAL VALUE AT WELL BASIS FOR TEXAS TAX

AUSTIN, Tex., Jan. 16.—The Texas comptroller, George H. Sheppard, has given notice to all producers of natural gas that the former agreed basis of price on which the state's 2 per cent tax is levied has been withdrawn, and in future actual gross receipts, except in case of sales by subsidiary to parent corporations, when the actual value at the well will be used, will be the basis for the tax levy. Text of his letter to all natural gas producers follows:

"The basis for the payment of the 2 per cent gross production tax on natural gas has been changed to become effective covering the returns for the fourth quarter of 1931. The tax is to be computed on the actual gross receipts instead of on the fixed price per thousand cubic feet, which was arranged by this department for the several districts.

"In the instance of actual sales at the well the purchase price will govern. This will not apply on the sales of subsidiaries to parent corporations. The returns on production that is not sold at the well will be based on the value of the gas at the well.

"In adopting the above method of computing the tax, each operator will be placed on an equal basis."

TWIN STATES NATURAL GAS

NEW YORK, Jan. 18.—The reorganization committee formed to refinance the Twin States Natural Gas Co. announces it has sufficient subscriptions to set up a reorganized company on the basis of the greater part of all the West Virginia properties now held by the receiver. Counsel for the committee and for the receiver are now completing the legal details in connection with the reorganization. Security holders get additional time in which to participate, the committee announced. On completion of financing the new company will own the properties in fee and the only mortgage indebtedness will be held by the partici pants in the reorganization. The committee is composed of Donald B. Adams, chairman; William A. Smart, Howard Reid, Leland E. Yeager and N. P. Hutchinson.

A.S.R.E. MEETS NEXT WEEK

New methods of air conditioning and space cooling will receive special attention at the twenty-seventh annual meeting of the American Society of Refrigerating Engineers which opens Monday, January 25, in Cleveland, Ohio, with headquarters in the Hotel Cleveland. The meeting will be a joint session with the American Society of Heating and Ventilating Engineers.

LONE STAR HEARING

The Oklahoma State Corporation Commission hearing involving valuation of properties in 26 Oklahoma communities by the Lone Star Gas Corp., has been adjourned until February 1. The corporation is protesting taxes levied against the property by the state.

CANADIAN GAS ASSOCIATION

Canadian Gas Association announces that its twenty-fifth annual convention will be held June 9 and 10, 1932, at Winnipeg, Manitoba.

GAS FOR OSCEOLA, IOWA

Iowa Southern Utilities Co., Osceola, Iowa, expects to have natural gas by early spring, according to W. F. Hutchinson, manager for the company.

SHAMROCK COMPANY DENIES WITHDRAWAL

FORT WORTH, Tex., Jan. 18.—The Shamrock Natural Gas Co. will "stand behind the city in its fight for municipal ownership of the Fort Worth gas system," W. E. Allaun, local representative of the company, declared.

The Shamrock has no intention of withdrawing from its contract with the city for a supply of gas, Allaun said. Under terms of the contract, the company would be privileged to withdraw without penalty after March 6 if the city at that time has not acquired possession of the local distribution system.

A $100,000 "good faith" deposit of the Shamrock company will be left on deposit after that date, Allaun declared. It had been rumored that the Shamrock company would withdraw from the contract on March 6.

WILL USE THERM BASIS FOR MIXED N. Y. GAS

NEW YORK, Jan. 18.—The filing by the Syracuse Lighting Co. of the Niagara Hudson Power System of a lower rate for gas to become effective with the impending introduction of natural gas into its territory will provide a test case for mixed manufactured and natural gas in New York state. The company's schedule calls for a new rate of $1.05 per 1,000 feet, compared with the present rate of $1.13. The therm method of billing will be used under the new plan, and, according to the company, the saving to consumers will amount to about $400,000 annually.

A definition of the attitude of the Public Service Commission, following its extensive study of natural gas and its utilization as a mixture with artificial gas, will be awaited with interest. It is generally recognized that the savings possible with the introduction of natural gas must at first be tentative, in the absence of prolonged experience, and that the cost of natural gas in a company's mains is not the same as the cost of gas as it leaves the soil. Investment in pipe lines, equipment and mixing apparatus has to be taken into account, as well as the revision of some of the distribution systems to determine their fitness to handle the richer product derived from a mixture of manufactured and natural gas.

GOOD WELL NEAR ERIE

ERIE, Pa., Jan. 16.—A 750,000-foot gas well has been brought in on a farm in North Springfield, near a lake west of Erie. Drilling operations were conducted by the Netherlands Gas & Fuel Co., an Ohio concern. It is understood more wells will be drilled. The company, affiliated with the Shafter Gas Co., which supplies Conneaut, Ohio, is reported to have leases on 15,000 acres in the North Springfield vicinity.

DISTRIBUTION CONFERENCE

The Ninth Annual Conference of the Distribution Committee, Technical Section, American Gas Association, will be held at the Tutwiler Hotel, Birmingham, Ala., April 6, 7 and 8. The committee in charge plans to have papers presented on "Latest Developments in Pipe Joint Research," "Gas Unaccounted for Studies," and "New and U-to-Date Developments in the Changeover from Manufactured to Natural Gas."

HOFFMAN FRANCHISE

Citizens of Hoffman, Okla., will vote January 19 on granting a 20-year gas franchise to Andy McInturff.

NASHVILLE STUDYING NEW GAS PROPOSITION

NASHVILLE, Tenn., Jan. 18.—Members of the Nashville City Council are studying copies of a proposed ordinance which, if passed, would give the Dickson County Oil & Gas Co., Inc., a franchise to come into Nashville with natural gas, subject to a vote of the people.

The measure is expected to come before the city council at its next meeting, according to W. E. Steger, attorney.

Under the proposal the matter would be submitted to a vote for the approval of a franchise of not more than 40 years' duration, subject to the right of the city to acquire and operate the gas wells and plant.

The Dickson County Oil & Gas Co. is a Tennessee corporation made up of Tennessee men, Mr. Steger said.

The rates proposed will not exceed 90 cents each month for the first 400 feet; 10½ cents per 100 feet for the next 2,600 feet per month; 7 cents net per 100 feet for all additional gas used up to 10,000 feet; and 60 cents net per 1,000 feet for all gas used in excess of 10,000 feet per month; with a minimum bill of $1.

The company proposes to pay 5 per cent of the gross receipts from the sale of gas within Nashville for the proposed franchise.

"By one section of the ordinance, the British thermal units for heating and illumination purposes are fixed at an average of 850 and never less than 750. This is considerably higher than the city of Nashville has ever enjoyed and of course will result in burning very much less gas," Mr. Steger declared.

NEWTON, KANS., FRANCHISE

NEWTON, Kans., Jan. 16.—The Newton Gas Co., a Cities Service subsidiary, has been granted a 20-year gas franchise, after a close city election. The franchise calls for a 26 per cent reduction in rates.

The new rate, which is retroactive to December 1, is $1 for the first 1,000 feet, 50 cents a thousand for the next 19,000 feet, 40 cents a thousand for the next 80,000 and 22 cents a thousand thereafter. The franchise calls for the new rates so long as gas can be obtained at the city gate for 25 cents. The former rate was $1.50 for the first thousand, $1 a thousand for the next 2,500 feet, and 50 cents a thousand thereafter.

The company has been without a franchise here for several years. Several weeks ago a proposed bond issue for a municipal gas plant failed by a small margin.

NORTH PENN GAS DIVIDEND

The board of directors of the North Penn Gas Co. has declared a regular quarterly dividend of $1.75 per share on the 7 prior preferred stock of the company, according to announcement by J. H. Isherwood, vice president.

The dividend is payable January 15. North Penn is associated with the Allegany Gas Co. in the Tioga, Pa., gas field and supplies the Crystal City Gas Co., which serves Corning, N. Y.

A.G.A. CONVENTION

The fourteenth annual convention of the American Gas Association will be held at Atlantic City, N. J., October 10-14, 1932.

MINNESOTA FRANCHISE

Peoples Natural Gas Co., Omaha, Neb., has applied for a franchise for the service of natural gas in Pipestone, Minn.

NAME FEDERAL RECEIVER FOR WESTERN SERVICE

Logan Carey, president of the Consolidated Gas Utilities Co., has been named receiver for the Western Service Co., a gas utility, by Edgar S. Vaught, federal judge, at Oklahoma City. Receivership litigation in Logan County, where H. E. Derwin, Guthrie, and Victor Hayes, Tulsa, had been named receivers, was transferred to the federal courts on application of the gas corporation. Application had been filed in the state district court by the Kahan Pipe Line Co. which claimed the utility had defaulted on promissory note payments.

Officials of the Western Service contend that enough money can be obtained to pay off all obligations from funds derived from sale of gas at Guthrie and Shawnee, where franchises were voted last autumn.

BORGER SYSTEM ENJOINED

BORGER, Tex., Jan. 16.—Laying of pipe for a new gas distributing system in Borger, under a franchise recently granted to I. J. Killion and associates, has been held up under a temporary restraining order granted by District Judge E. J. Pickens.

Work was halted after 1½ miles of trench had been dug and pipe had been unloaded alongside the trench. The application for a permanent injunction was filed by the Panhandle Power & Light Co. on the grounds that the citizens had not been given an opportunity to vote on the franchise granted to Killion. A petition is being circulated asking that an election be called. Killion's system, it is said, was to be a high pressure one, supplied with fuel by the Huber Petroleum Corp.

CANADIAN GAS PRODUCTION

CHATHAM, Ontario, Jan. 16.—Figures just issued by the Dominion Bureau of Statistics at Ottawa show that the commercial output of natural gas from all Canadian fields in October, 1931, was 1,901,073,000 feet, compared with 2,327,470,000 feet in the same month last year. In September, 1931, the output was 1,557,723,000 feet. Production for the first 10 months of 1931 totaled 21,189,117,000 feet, or 9.2 per cent below the figure for the corresponding period of 1930, which was 23,344,223,000 feet. Of the October, 1931, production 70.9 per cent came from Alberta wells, 26.9 from Ontario and 2.2 from New Brunswick.

Imports of mixed gas (natural and artificial) into Canada from the United States in October totaled 5,265,000 feet valued at $3.546 as compared with 7,991,000 feet valued at $5,598 in September.

GAS FROM COFFEE

A dispatch from Nichtheroy, Brazil, says: Technicians, at tests made on the worth of coffee for producing fuel, verified that a ton of coffee beans produced 14,473 cubic feet of combustible gas of 160,000 B.t.u.

In tests made for four days at the gas works at Vianna Island, 706,000 cubic feet of gas were produced. The residue, after the gas is removed, is to be made into fuel briquets.

The Ministers of Finance, Communications and Commerce were present at the trial and said they were convinced the results were good.

SOUTH DAKOTA FRANCHISE

Worthing, S. D., has granted a natural gas franchise to the Sioux Falls Gas Co., Sioux Falls, S. D.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 37)

NATCHITOCHES PARISH

Dr. H. S. Gerson's No. 1 Smith, Sec. 11-10-8, 2,000 ft. N, NE cor. of irregular Sec. 10, in Sec. 11 ..... S.D. 585 ft.
Dr. H. S. Gerson's No. 2 Smith, Sec. 11-10-8, 200 ft. N and 300 ft. W of NE cor. ..... Location.
Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10.. S.D. 1,518 ft.
R. A. Keaton's No. 1 Stephens, Sec. 25-10-6, 320 ft. N and W, SE cor. NW NW ..... S.D. 178 ft.
Midwest Prod. Co., Inc.'s No. 1 H. Brown, Sec. 34-11-10, 200 ft. W, 220 ft. S, NE cor. SE ..... Dry and abd. 2,590 ft.
C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10..... S.D. 1,380 ft.

OUACHITA PARISH

J. J. Potts, agent's No. 1 Robinson-Reed, Sec. 11-18-4e, 1,745 ft. N, 780 ft. E, SW cor. Sec. ..... Location.
United Gas Public Service Co.'s No. 1 Wiley, Sec. 8-18-5, 660 ft. S and E, NW cor. ..... Coring 2,245 ft.
Wilson & Mitchell's No. 1 Williams, Sec. 5-16-1e, 330 ft. E, 240 ft. S, NW cor. SW SE ..... Drlg. shale 1,800 ft.

RED RIVER PARISH

La. Oil Dev. Co.'s No. 2 La. Delta Pecan Co., 2,950 ft. S, 200 ft. E, NW cor., Sec. 27-13-11 ..... Spudded and S.D. 50 ft.
Mack Jourdeu Co.'s No. 1 Lockett, 4,035 ft. S, 1,080 ft. E, NW cor. SW, Sec. 29, in Sec. 32-13-10 ..... Pumping 10 bbls. 2,750 ft.

RICHLAND PARISH

National Gas Co.'s No. 1 Singletary, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-18n-7e ..... S.D. 2,515 ft.

SABINE PARISH

Abney & Davidson's No. 1 Frank Martinez, 330 ft. S and W, NE cor. NW, Sec. 11-7-13 ..... Rigging up.
Baird & Stone's No. 1 McNeely, Sec. 14-7-11..... Derrick.
Beene et al's No. 1 Ezernack, Sec. 2-7-13, 1,070 ft. S, 250 ft. W, NE cor. ..... S.D. for fuel 1,000 ft.
Coates Pet. Co.'s No. 1 Parie, Sec. 3-7-13, 300 ft. S and W, NE cor. NE SE ..... Drlg. 1,800 ft.
W. M. Coates' No. 1 Stille, 330 ft. N, 660 ft. W, SE cor., Sec. 35-8-13 ..... Derrick.
Davidson & Grigsby's No. 1 Martinez, Sec. 2-7-13, 330 ft. S and W, NE cor. NW SE ..... S.W. and abd. 2,520 ft.
B. A. Ferrell's No. 1 Haley, Sec. 6-7-12, 300 ft. S and E, NW cor, NW SW ..... Rigging up.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW, Sec. 10-8-13 ..... Drlg. lime and shale 4,374 ft.
Gehring Oil Co.'s No. 1 Skinner, Sec. 16-8-11, 615 ft. E, 565 ft. S, NW cor. NW ..... T.D. 2,777 ft.; S.D.; W.O.
W. F. Lacey's No. 1 McNeely, Sec. 14-7-11, 250 ft. S and W, NE cor. Sec. ..... Derrick.
W. F. Lacey's No. 1 Parie, 330 ft. S and W, NE cor. SW, Sec. 2-7-13 ..... S.W. and abd. 2,575 ft.
T. M. LeGrand's No. 1 Peterson, 330 ft. N and E of C, Sec. 34-7-13 ..... Arranging to set 6-in. 3,243 ft.
Geo. LeGrand's No. 1 McGough, Sec. 3-8-10..... Derrick.
Loring Oil Co.'s No. 20 Bowman-Hicks, Sec. 4-7-12, 330 ft. S and W, NE cor. NW NW ..... Set 10-in. 101 ft.
J. J. Keen, tr.'s No. 1 Belton (no check), Sec. 31-9-13.... Drlg. black sand 2,500 ft.
Pelican Nat. Gas Co.'s No. 1 Buckley, Sec. 6-7-10, 330 ft. N and E, SW cor. Sec. ..... Set 10-in. 100 ft.
Rush & French's No. 1 Martinez, Sec. 11-7-13, 330 ft. S, 990 ft. E, NW cor. ..... Set 10-in. 100 ft; drlg. 1,100 ft.
Ruston Drlg. Co.'s No. 1 McGehee, Sec. 28-8-12, 330 ft. N and W, SE cor. SW SW ..... Set 10-in. 100 ft; drlg. 750 ft.
Service Drlg. & Royalties Corp.'s No. 1-B Gardner, Sec. 7-7-10, 330 ft. S and E, NW cor. SW NW ..... Rigging up.
J. E. Smitherman's No. 1 Smith, Sec. 7-7-10, 330 ft. S and E, NW cor. NW SW ..... Location.
A. H. Thames' No. 1 Edward est., 150 ft. NW SE cor. NE SE, Sec. 8-8-13 ..... S.D. 1,200 ft.
C. H. Tuttle et al's No. 1 Byrd, Sec. 7-7-10, 330 ft. S and E, NW cor. ..... Rigging up.

TENSAS PARISH

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 ..... S.D. 3,545 ft.

ARKANSAS

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, Rhea & Kitchen, Sec. 13-17-22 ..... S.D.; W.O. 814 ft.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C, NW SE, Sec. 4-20-8 ..... S.D. 1,350 ft.

CLEVELAND COUNTY

Crum & Stillwell's No. 1 E. R. Bell, Sec. 10-10s-12w .... Rigged up and S.D.

CLEBURNE COUNTY
(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... S.D. 3,740 ft.

DALLAS COUNTY

J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor. SE, Sec. 11-9-15 ..... S.D. funds 2,520 ft.
Zepp O. & G. Co.'s No. 3 Hillman, Sec. 20-10-13, 180 ft. N, 450 ft. E, SW cor. NW NE ..... Location.

DREW COUNTY

Co-Operative Dev. Co.'s No. 1 Ogles, Sec. 35-15-5, 330 ft. S and E, NW cor. NE NW ..... S.D. 1,890 ft.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 ..... S.D. 1,300 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 200 ft. W, NE cor. NE SW, Sec. 5-8-7 ..... S.D. 2,800 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-12-19 ..... Location.
Stephens et al's No. 1 Dierke Lbr. Co., Sec. 29-12s-21w, 150 ft. S, 330 ft. E, NW cor. NE NW..... Drlg. 2,285 ft.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 12-6-26.... S.D.; W.O. 3,570 ft.

MILLER COUNTY

W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27..... S.D. 1,955 ft.

OUACHITA COUNTY

Copenhaven et al's No. 2 Berg, C SE SE, Sec. 13-15-17.. S.D. 2,011 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14..... T.A. 2,909 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24..... S.D.; W.O. 1,020 ft.
E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor., Sec. 13-9-23..... S.D. 338 ft.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW, Sec. 3-4n-6w ..... Partly rigged up and S.D.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26..... S.D.; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 ..... S.D. 1,860 ft.

SEVIER COUNTY

Tristate Oil Co.'s No. 1 Grimble, Sec. 34-8-22, S½ SW... S.D. 950 ft.

UNION COUNTY

Drillers Oil & Dev. Co.'s No. 1 Pickering, 220 ft. N, 668 ft. E, SW cor. NW NE, Sec. 1-17-16..... Cutting liner with ripper 3,134 ft.
H. H. Helms' No. 1 C. H. Murphy, NE cor. NW NE, Sec. 31-16-14 ..... Drlg. 853 ft.
L. M. Hill et al's No. 1 J. W. Barnes, Sec. 31-19-16, NE cor. Sec. ..... Derrick pattern.
Modisette et al's No. 1 Union Sawmill Co., Sec. 13-18-13, 330 ft. S and E, NW cor. SW NW..... S.W. and abd. 3,280 ft.
Sunby et al's No. 2 Perdue, Sec. 33-16-14, 75 ft. S, 150 ft. E, NW cor. Sec. ..... W.O. 3,247 ft.

WASHINGTON COUNTY
(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30..... S.D. for funds 1,795 ft.

YELL COUNTY
(Cable tools)

Tegmeir & Luckett's No. 1 Falcon, Sec. 36-7-21..... S.D. 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. ..... S.D. 4,505 ft.
Tarkington & Jones' No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. ..... S.D. 1,380 ft.
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur. ..... S.D. 3,000 ft.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tr. in J. H. Murphy Sur. ..... Abd. 3,000 ft.

CASS COUNTY

J. F. Morrisey's No. 1 T. J. Wilson, 1,088 ft. S of N line, 2,376 ft. E of W line of H.R.S., J. R. McFarland Sur. ..... S.D. 3,670 ft.
Davis & Pigg's No. 1 Roy Bryan, SW cor. Roy Bryan 88-ac. tr., Albert H. Latimer Sur. ..... S.D. 2,860 ft.
Everets Drlg. Co.'s No. 1 H. W. Whittington, 200 ft. S and W, NE cor. 69-ac. Whittington tr., L. Strong Sur.. Dry and abd. 3,922 ft.
Geo. McKamie's No. 1 R. E. Hall, 150 ft. N, 150 ft. W, SE cor. Hall's 117-ac. tr., H. Buckler Sur. ..... Dry and abd. 4,195 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 4,390 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. ..... S.D. 2,280 ft.
Olds & King's No. 2 Anthony, John C. Byers Sur. ..... S.D. 1,750 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur. ..... S.D. 955 ft.

HARRISON COUNTY

Lloyd Oil Corp.'s No. 1 E. S. Timmons, 150 ft. from N line to 250 ft. from E line of 105-ac. tr., Findley Sur. ..... S.D. 4,195 ft.
Ryan Cons. Pet. Corp.'s No. 1 J. M. Fuhr, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur. ..... Derrick.

MARION COUNTY

Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. ..... S.D. 2,380 ft.

PANOLA COUNTY

Hoffer et al's No. 1 Cameron Lbr. Co., center 1,306-ac. tr. in W. M. A. LaGrove Sur. ..... Derrick.
Moses & Wallace's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur.. Spudded and S.D.
G. A. Davidson's No. 1 Latham, Wm. Rich Sur. ..... S.D. 2,055 ft.
J. L. Nelson et al's No. 1 J. W. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in James Hanks Sur. ..... S.D. 2,920 ft.
United Gas Public Service Co.'s No. 11 Werner, 1,162 ft. N, 2,418 ft. W, SE cor. D. B. Lewis Sur. ..... Plugged back to 3,650 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. .... S.D. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. .... S.D. 2,280 ft.

SHELBY COUNTY

Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. .. Skidded over; set 10-in. 103 ft; drlg. 1,500 ft.
Harry Elliott's No. 1 Pickering Lbr. Co., 1,000 ft. N, 150 ft. E, SW cor. 361-ac. tr., G. H. Patterson Sur.. S.D. 500 ft.
K. H. Francis' No. 1 John Mims, Mary Smith Sur. ..... S.D. 3,334 ft.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 200 ft. E, SW cor. J. A. Morris' 109-ac. tr., Wm. English Sur. ..... S.D. 2,600 ft.
Henry Maulding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 80-ac. tr., A. D. Fountain Sur. ..... S.D. 3,246 ft.
McRoby et al's No. 1 Windham, Wm. Leach Sur., on Windham 296-ac. tr. ..... S.D. high wtr. 3,393 ft.
Ridgeway et al's No. 1 Polley, Dominguez Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. ..... Set 8-in. 822 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. ..... S.D. 20 ft.
Tenant et al's No. 1 J. Henry, C. Z. Walker Sur. ..... S.D. 3,457 ft.
United North & South Prod. Co.'s No. 1 Windham, 800 ft. W, 1,050 ft. N, SE cor. of Windham 171.5-ac. tr. on A. H. English Sur. ..... S.D.; W.O. 3,391 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 37)

Crescent Drlg. Co.'s No. 2 Byrd, Sec. 12-7-11, 330 ft. S and W, NE cor. NW NE ..... Rigging up.
O. A. Gautier et al's No. 1 Mischell, 330 ft. E, 150 ft. N, SW cor. SE NW, Sec. 30-8-12 ..... S.D; W.O. 2,599 ft.
Hawkins & Antoon's No. 1 Newton, Sec. 1-7-11 ..... W.O.S.R. 2,609 ft.
Lionel Hawkins' No. 1 Byrd, Sec. 1-7-11, 330 ft. N and W, SE cor. SE NW ..... Location.
Hudson & Bird's No. 1 Walden, 480 ft. N, 300 ft. E, SW cor. SW NE, Sec. 26-8-11 ..... S.D. 2,454 ft.
M. J. Kissick's No. 1 Brown Lbr. Co., Sec. 1-7-11, 1,070 ft. S, 1,225 ft. E, NW cor. NE ..... Dry and abd. 2,720 ft.
Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11 ..... S.D. 1,606 ft.
Loring Oil Co.'s No. 18 Bowman-Hicks, 1,280 ft. S, 275 ft. E, NW cor. SW NW, Sec. 15-7-12 ..... Mixing mud 4,428 ft.
L. K. McGuffin's No. 1 Bush, NW cor. NW SE, Sec. 1-7-11 ..... Testing 2,493 ft.
Ben Merritt, tr.'s No. 2 Byrd, Sec. 1-7-11 ..... S.D. 2,480 ft.
Ohio Oil Co.'s No. 11 Bowman-Hicks, Sec. 2-7-11, 330 ft. N, 990 ft. E, SW cor. NW ..... Drlg. chalk 2,465 ft.
H. W. Perritt's No. 6 Bowman-Hicks, Sec. 2-7-12, 150 ft. S and W, NE cor. SE NE ..... W.O.S.R. 2,317 ft.
Eddie Self's No. 3 Jacobs, Sec. 1-7-11, 150 ft. N and E, SW cor. SE SE ..... Location.

ARKANSAS

UNION COUNTY—EL DORADO

Ark. O. & G. Co.'s No. 4 Anderson, Sec. 31-17-15, 2,005 ft. S, 150 ft. W, NE cor. NW SW ..... W.O.S.R. 2,149 ft.
Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15 ..... S.D. high wtr.; 7,255 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15 ..... S.D. 2,608 ft.

UNION COUNTY—URBANA

Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. S½ NW, Sec. 11-18-13 ..... T.A. 3,586 ft.
Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor. NE NE, Sec. 10-18-13 ..... Location.
Wilson & Chapman's No. 1-B Hadley, Sec. 3-15-13, 320 ft. S and W, NE cor. SE NW ..... Waiting on 6-in. csg. 3,542 ft.

HARRISON COUNTY

Calatex O. & G. Co.'s No. 6 Argus, 755 ft. N, 699 ft. W of Mile Post No. 27, W. Mack Sur. ..... Completed for 4,000,000 ft. of gas 2,957 ft.

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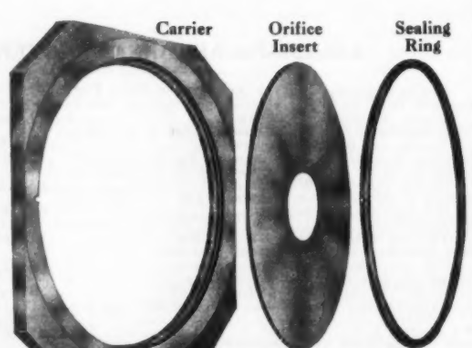

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EAST TEXAS
PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. ....S.D. 3,194 ft.
Nat. Gas Prod. Co.'s No. 3 Maya, 158 ft. S, 443 ft. W, NE cor. 42.5-ac. tr., Jane Thorpe Sur. .....Set 12½-in. 150 ft; drlg. 750 ft.
United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur. ..Location.

MISSISSIPPI
HINDS COUNTY

Love Pet. Co.'s No. 1 Interior Lbr. Co., Sec. 2-5n-1e, 90 ft. W, 270 ft. N, SE cor. SW .....Derrick.
Millsaps College's No. 1 fee, Sec. 34-6n-1e, 2,225 ft. N, 1,412 ft. W, SE cor. Sec. .....Completed estimated 35,000,000 ft. gas 2,503 ft.

RANKIN COUNTY

James Alexander, tr.'s No. 1 Hurst, Sec. 12-6n-1e, 200 ft. N, 700 ft. W, SE cor. NE NE .....Set 6⅝-in. 2,344 ft.
Anderson et al's No. 1 Casey & Wellon, Sec. 11-5n-1e, 656 ft. N and W, SE cor. Sec. .....Set 6⅝-in. 2,395 ft.
Cummins & Montgomery's No. 1 Ivey, Sec. 13-5n-1e, NE Lot 10, Blk. D, E. Jackson Pl., First Addn. ...Derrick.
Meredith et al's No. 1 Strowder, Sec. 12-5n-1e, SE cor. SW NE .....Derrick.

WILDCAT OPERATIONS IN MISSISSIPPI

HINDS COUNTY

Company, farm and location—	Remarks:
Atkins et al's No. 1 Crane Lawrence, Sec. 23-6n-1e, 300 ft. E, 132 ft. N, SW cor. NE SE	Derrick.
Consumers O. & G. Co.'s No. 1 Interior Lbr. Co., 805 ft. E, 205 ft. N, SW cor., Sec. 1-5n-1e	Drlg. 2,367 ft.
Howard Oil Co.'s No. 1 Jackson College, C NW NW, Sec. 9-5-1e	S.D. 340 ft.
Miss.-Minn. Oil Co.'s No. 1 Edwards Land Co., Sec. 23-6n-4w, 1,200 ft. N and E from center of Sec.	Location.
Ridgeway & McGehee, Inc.'s No. 1 Mosal, Sec. 24-6n-1e, 200 ft. N, 100 ft. E, SW cor. of E½ SW	Set 6⅝-in. 2,454 ft.
Roell O. & G. Co.'s No. 1 Dreyfuss, 650 ft. N, 480 ft. W, SE cor. NE, Sec. 4-5n-1e	Set 10-in. 763 ft; drlg. 1,746 ft.
Southern Pet. Co.'s No. 1 Wilton (was Tri-State O. & G. Co.'s), 320 ft. E, 240 ft. N, SW cor. SE NE, Sec. 28-6-1e	Waiting orders 2,498 ft.
F. E. Stewart et al's No. 1 Miss. Cotton Seed Products Co., Sec. 4-5n-1e, 320 ft. S, 440 ft. W, NE cor. SE	Derrick.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 2-12-9	Drlg. 3,105 ft.

LOWNDES COUNTY

Lowndes County Oil & Dev. Co.'s No. 1 Carr est., Sec. 34-17-16e, 1,320 ft. E, 330 ft. S, NW cor. Sec.	Rig on location.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19	S.D. 3,015 ft.
McAlpine et al's No. 1 Cowart, second hole, Sec. 2-12-19.	T.A. 3,793 ft.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E, SW cor. SE, Sec. 25-6n-11e	S.D. 840 ft.

NOXUBEE COUNTY

Thompson & Donohue's No. 1 Donohue, Sec. 25-16n-17e.	S.D. 1,735 ft.

RANKIN COUNTY

Attkisson & Dyer's No. 1 Valentour, 200 ft. S, 200 ft. E, NW cor., Sec. 18-5n-2e	Waiting on csg. 2,428 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e.	Derrick.

SCOTT COUNTY

M. U. Culley et al,s No. 1 Owens, Sec. 2-8-9	Derrick.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-2	S.D. 2,607 ft.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 40)

Alamo Natural Gas Co.'s No. 2 Gembler, 1,000 ft. S of No. 1 in A. Manchaco Sur. No. 51 .....Drlg.
J. E. Anderson's No. 1 Suburban Irrigated Farms, 500 ft. to N line, 600 ft. to E line of C. Logan Sur.....T.D. 1,773 ft.; cleaning out.
Eckert et al's No. 1 Edwards, 150 ft. to N and W lines of farm in Martinez Sur. .....T.D. 110 ft.; resumed drlg.
Callahan Final Oil Co.'s No. 1 B. H. Buck, 900 ft. to E line, 3,200 ft. to S line of farm, in J. M. McGamley Sur. .....T.D. 650 ft.; drlg.
Dr. Ewell Neil's No. 1 J. Watson, 500 ft. from W line, 1,700 ft. from S line of B. Martinez Sur. .....T.D. 2,250 ft.; drlg. chalk.
Jones & Voltz' No. 6 Bonkowsky .....T.D. 650 ft.; drlg.
O. K. Oil Co.'s No. 1 Strum, 150 ft. S of N line, 150 ft. W of E line, John Grant Sur. .....Drlg.
O. K. Oil Co.'s No. 2 Strum, 150 ft. from S line, 1,051 ft. W of E line, Juan Mantes Sur. .....Drlg.
Schneider, Rees et al's No. 2 Claussen, 12 miles NE of San Antonio .....T.D. 1,150 ft.; S.D.
W. R. Swearingen et al's No. 7 Halberdier, 150 ft. W of E line, 540 ft. S of N line, J. M. Perez Sur.....T.D. 800 ft.; drlg.
Tri-State Oil Co.'s No. 1 E. B. Carruth, 2,500 ft. from S line, 2,560 ft. from E line of tr. in F. Bolen Sur....T.D. 780 ft.; standing 600 ft. in oil.
S. W. Blount's No. 1 S. A. Land Co., I. Perez Sur., 1,000 ft. to N line, 450 ft. to W line of tract .....T.D. 500 ft.; S.D.
Van Duyn et al's No. 1 Bradden, 5,000 ft. N of Medina River, 350 ft. to E line of tract, 8 miles W of San Antonio .....T.D. 650 ft.; drlg.

CALDWELL COUNTY

Cole & Moseley's No. 1 Pierce, 150 ft. to NW and SW lines of tract, Solomon Seal Sur. .....Spudded in.
Meyer's No. 1 G. C. and W. Walker, Solomon Seal Sur...Moving in rig.
M. O. Rayor's No. 3 N. L. Dunlop, 350 ft. to NW line, 150 ft. to NE line of farm, Solomon Seal Sur. .....T.D. 2,503 ft.; plugging back.
Charles H. Wagener's No. 1 Rodenberg.....Location.

DUVAL COUNTY

Frank Gravis et al's No. 2 Schallert, 425 ft. to E line, 150 ft. to S line of Blk. 10, Cain & Smith Subd. "A", Sur. No. 255 .....T.D. 960 ft.; drlg.
O. W. Killam's No. 1 Sutherland, Sur. No. 7, 3,200 ft. to E line, 150 ft. to N line .....T.D. 1,600 ft.; drlg.
O. W. Killam's No. 1 Peters, 150 ft. from E line, 450 ft. from N line of SE of Sur. No. 1 .....Derrick.
Thomas & Tarver, Inc.'s No. 1 Wood-Welder, 500 ft. to N line, 4,320 ft. to W line of Sur. No. 102 .....T.D. 2,300 ft.; standing.
Vacuum Oil Co.'s No. 1 Duval Land Co., 260 ft. from S and E lines of Sur. 96 .....Spudded in.

FRIO COUNTY

A. H. Wray's No. 1 Roche, 330 ft. from N and W lines of NW SE Sec. 123, A. Hutzler Sur. .....T.D. 2,680 ft.; drlg.

GUADALUPE COUNTY

Barnhill et al's No. 1 H. L. Hoffman, 450 ft. to N and W lines of farm, in John G. King Sur. .....T.D. 850 ft.; S.D.
M. W. Eiser's No. 1 Wells, 2,790 ft. to W line, 150 ft. to S line of farm in Jose de la Baume Sur. .....T.D. 3,037 ft.; drlg.
J. M. Scott's No. 1 E. Drumm, 250 ft. to W line, 150 ft. to S line of tract, C. Campbell Sur. .....T.D. 700 ft.; drlg.

GOLIAD COUNTY

Camp & Stanolind's No. 3 Pettus, 2,438 ft. N, 74 deg. E of No. 2 .....T.D. 4,291 ft.; drlg.

Plymouth Oil Co.'s No. 1 Parks, 5 miles NE Goliad.....T.D. 4,625 ft.; recementing.
Neal et al's No. 1 J. M. Pettus, 10,700 ft. to S line, 2,500 ft. to E line of Pedro Trevino Sur. .....T.D. 4,000 ft.; S.D.

GONZALES COUNTY

Crowder Oil Co.'s No. 1 Preston, 1,000 ft. from W line, 2,000 ft. from N line of W. W. Pace Sur. .....Spudded in and S.D.
Johnson & Mattock's No. 1 J. James, 12 miles NE of Gonzales city, 900 varas from E line, 300 ft. from S line of tract in M. A. Williams Sur. .....Location.

HIDALGO COUNTY

Barrett-Kanellos' No. 1 J. B. Brock, 7 miles W and N from Mission (on Monte Cristo road) .....T.D. 875 ft.; drlg.
Davenport et al's No. 1 Wells, 30 miles W of Mission...Moving in rig.
LaJoya Oil & Gas Co.'s No. 1 W. L. Hart, 6 miles W from Mission, north of San Fordyce .....T.D. 1,600 ft.; drlg.
Dayle L. Smith's No. 1, 18 miles W from Edinburg .....T.D. 4,026 ft.; standing, showing gas.
San Roman Oil Co.'s No. 1 J. T. Lomax, 7,500 ft. from S and E lines of San Roman Sur. .....Location.
Dayle L. Smith's No. 3 Daskam, SW part of county.....Spudded in.

JIM HOGG COUNTY

L. W. Connor's No. 1 Holbien, 150 ft. from N and E lines of Blk. 7, Sur. 7, Holbien Subd. of Las Animas grant .....**Spudded in.**
R. F. Force's No. 1 Holbien, 150 ft. from N and W lines of Blk. 54, Sur. 9, Holbien Subd. of Las Animas grant .....Spudded in.
T. P. Morgan's No. 1 fee, 2,223 ft. to N line, 1,640 ft. to E line of Share 19, Palo Blanco grant ... .T.D. 620 ft.; S.D. to drill wtr. well.

JIM WELLS COUNTY

Vacuum Oil Co.'s No. 1 Seeligson .....Making location.

KARNES COUNTY

A. E. Edmiston's No. 1 O. L. Cochran, 150 ft. from S line, 500 ft. from E line of farm in D. B. McConnell Sur. .....T.D. **1,600 ft.; drlg.**
V. F. Neuhaus' No. 1 Della B. Tips, 1,050 ft. from SE line, 960 ft. from SW line of 1,037.5 ac., Carlos Martinez Sur., 5 miles SE of Kennedy .....**1,550 ft.; drlg.**

KENDALL COUNTY

Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale .....T.D. 2,708 ft.; standing.
Fred S. Dibble's No. 1 Ellebrach, Sur. 77, N part of county .....T.D. 50 ft.; S.D.

KERR COUNTY

Evans & Gant's No. 1 E. Young, A. E. Burge Sur. No. 28.T.D. 1,312 ft.; standing.
Evans & Gant's No. 2 Love, 150 ft. S and W line of Sur. 1,593 .....T.D. 5,839 ft.; setting csg.

LA SALLE COUNTY

Buckley Ranch O. & G. Co.'s No. 1 Buckley, 200 ft. from S line, 330 ft. from W line of Sur. No. 37 .....T.D. **4,905 ft.; drlg.**

LIVE OAK COUNTY

J. A. Harper's No. 1 fee, 2,130 ft. to N line, 510 ft. to E line of farm, J. Pointevant Sur. No. 37 .....Rigging up.
Henderson Coquat's No. 1 Hewitt .....T.D. **1,785 ft.; S.D.**
Phillips Petroleum and Henderson Coquat's No. 1 Sanger, 150 ft. to most S of N lines, 2,000 ft. to W line of tract .....T.D. 4,007 ft.; standing.
Texas Prod. Co.'s No. 1 Two Rivers Ranch, 3,700 ft. SW of NW cor. of Ely Jurdan Sur. and 43,000 ft. SE at right angles .....T.D. **1,000 ft.; drlg.**

LEE COUNTY

Henderson & Holden's No. 1 Dismuke, 600 ft. to E line, 150 ft. to N line of farm, J. Maxmillan Sur. .....Rigging up.
A. H. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. .....T.D. 3,890 ft.; S.D.
C. B. Polk et al's No. 1 Stoltz, Hiram Donohue Sur. ...T.D. 2,300 ft.; S.D.
Chadwick et al's No. 1 Hickey, 1,000 ft. to NW line, 300 ft. to NE line of farm in Varrelman Sur. .....**T.D. 20 ft.; spudded in.**
Washington-Lee Oil Co.'s No. 1 L. Hicket, 1,100 ft. from N line, 200 ft. from E line of tract in J. D. Varrelman Sur. .....Location.

McMULLEN COUNTY

Jacob, Buzzini & Pickett's No. 1 Brewer, 750 ft. NE of Pickett's No. 1 Nelson .....Location.

MAVERICK COUNTY

I. N. Boicourt's No. 1 Bandera, School Land .....T.D. 2,284 ft.; standing.

MEDINA COUNTY

Frank A. Brown's No. 1 Fohn, 150 ft. from E line, 790 ft. from N line of J. F. Torry Sur. No. 113 .....T.D. 922 ft.; twisted off drill stem, fishing.
C. J. Webster Oil & Gas Co.'s No. 1 Adams, 2,450 ft. to N line, 160 ft. to E line of Jos. Hillemeyer's No. 25.T.D. 2,285 ft.; reaming to make test.

MILAM COUNTY

H. W. Elliott's No. 1 Marek, 767 ft. from N line, 500 ft. from W line of 160-ac. tr. in B. Wickson Sur. .....T.D. 1,456 ft.; S.D.
Nowlen's No. 1 Beard, 1,350 ft. from SE line, 450 ft. from SW line of farm, in J. F. Guthrie Sur., 4 miles S Thorndale .....T.D. 2,036 ft.; S.D.
Red Bank Oil Co.'s No. 2-A J. A. Foster, 5,243 ft. to SW line, 150 ft. to NW line of farm .....T.D. 3,900 ft.; drlg.

NUECES COUNTY

C. E. McCarthy's No. 1, W of Corpus Christi .....Making location.
Southern Crude Oil Pur. Co.'s No. 1 Chas. E. Stratton, 1,650 ft. E line, 330 ft. S line of P. Sancho Sur.....T.D. 4,801 ft.; to drill deeper.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW. Sec. 175 .....T.D. 2,530 ft.; S.D.

STARR COUNTY

R. E. Johnson's No. 1 Goodrich, 1,214 ft. from N line 1,065 ft. from W line of tract, 1½ miles N of Rio Grande City .....Spudded in and S.D.
Strauch Oil Corp.'s No. 1 M. E. Salinas, 155 ft. from N and W lines of lease in Porcion 80, Share 38 .....Derrick.
R. B. Suttle's No. 1 Guerra, 2,000 ft. to N line, 270 ft. to W line of Porcion 110 .....T.D. 810 ft.; drlg.
Jess Williams' No. 1 Welsh, 1,120 ft. to W line, 1,500 ft. to N line of tract in Pedernal grant .....T.D. 425 ft.; set csg.

TRAVIS COUNTY

C. R. Franklin et al's No. 1 J. Wilson, 160 ft. from N and W lines of farm in A. Alexander Sur. .....T.D. 1,180 ft.; S.D.
Fuchs et al's No. 1 Shiffler, 1,000 ft. to N line, 160 ft. to E line of farm, A. C. Caldwell Sur. .....T.D. 515 ft.; drlg.
Ray & Henze's No. 1 Hatech, in C of tr. in S. Hamilton Sur. .....T.D. 540 ft.; S.D.

VAL VERDE COUNTY

Kenneth B. Couch's No. 1 Y. P. Yoas, southeast part of county .....Spudded in.

WEBB COUNTY

Harris, Hayes & Newton's No. 1 Laurel, 300 ft. from N and E lines of Blk. 5, Sur. 715 .....T.D. 2,210 ft.; drlg.
O. W. Killam's No. 1 Bruni, 1,667 ft. to N line, 805 ft. to W line of Sur. No. 445 .....T.D. 2,910 ft.; drlg.
Power & Dettenhalm's No. 1 Cowan & Goss, 1,870 ft. from W line, 1,656 ft. from N line of Sur. No. 1,606..T.D. 455 ft.; drlg.
Pansier, Johnson & Peacock's No. 1 Laurel, 425 ft. to N line, 600 ft. to E line of Blk. 10, Sur. 271 .....T.D. 950 ft.; drlg.

WILLIAMSON COUNTY

Burns et al's No. 1 Wilder, 1,800 ft. to N line, 200 ft. to W line of tr. in H. Owens Sur. .....T.D. 1,480 ft.; drlg.
Hays & Gee's No. 1 E. G. Johnson, 1,800 ft. from N line, 170 ft. from E line of tr. in B. C. Low Sur., S of Georgetown .....T.D. 1,595 ft.; S.D.
McLean's No. 1 R. C. Miller, 300 ft. from S line, 150 ft. from W line, of farm in Manlove Sur. .....T.D. 1,765 ft.; S.D.
R. S. Wilson's No. 1 Speckles, 150 ft. N of road, 600 ft. from W line of farm in J. Jordan Sur., 1 mile N of Coupland .....T.D. 875 ft.; S.D.

WILSON COUNTY

A. M. Blume's No. 1 Nickolson, C. Diaz Sur. .....T.D. 1,600 ft.; S.D.

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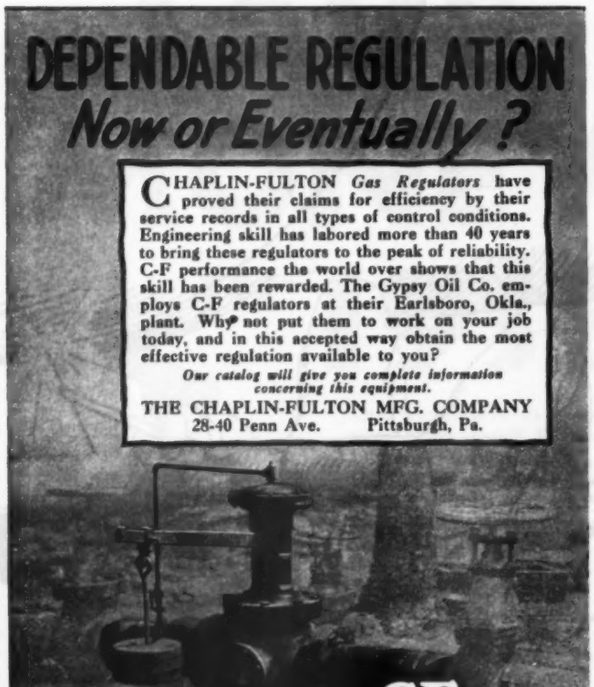
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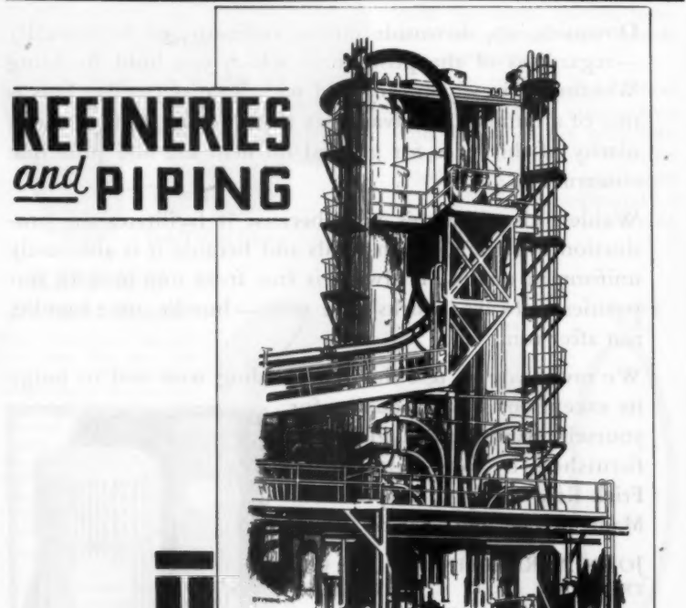
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ZAPATA COUNTY

Ballard & Mercer's No. 1 Flores, 500 ft. from NE line, 580 ft. from SE line of Blk. 27, Porcion 37 ..... T.D. 1,312 ft.; drlg.
United North & South Development Co.'s No. 1 Guiterrez, 150 ft. from NE line, 488 ft. from NW line of Blk. 325 of E. M. Doty lease in Charco Redondo grant ..... 450 ft.; drlg.

ZAVALLA COUNTY

Carpenter & Jenkins et al's No. 1 John Wolf, Sec. 8, Abstract 1,199 ..... Drlg.

SOUTHWEST TEXAS PROVEN AREAS

(Continued from Page 40)

SLICK POOL—GOLIAD COUNTY

C. R. M. and H. H. Weinert's No. 1 Stopke, 660 ft. from S and W lines ..... T.D. 2,500 ft.; drlg.

CARTWRIGHT POOL—LIVE OAK COUNTY

Houston Oil Co.'s No. 14 Cartwright, 1,000 ft. W of No. 23 Cartwright ..... T.D. 5,400 ft.; standing.
Houston Oil Co.'s No. 24 Cartwright, 784 ft. N of No. 4, J. M. Colchado Sur. ..... T.D. 4,394 ft.; drlg.

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim ..... T.D. 4,850 ft.; standing.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Sagarin ..... T.D. 2,950 ft.; drlg. after sidetracking at 2,750 ft.
Gulf Coast Oil Co.'s No. 1 Elder, NW of same company's No. 1 Harrell ..... T.D. 5,070 ft.; standing.
Gulf Coast Oil Co.'s No. 2 Sedwick, east offset to company's No. 1 Harrell ..... Making location.
Gulf Coast Oil Co.'s No. 3 Sedwick, east offset to Houston Oil Co.'s No. 1-B Maggie Harrell ..... Making location.
Neal, Milton & Kepley's No. 2 Roark ..... Making location.
Saxet Oil Co.'s No. 3 Donigan, north offset to Zoch's No. 1 Baldwin ..... Location.
Saxet Oil Co.'s No. 5 Well, 3,041 ft. to N line, 333 ft. to W line ..... Drlg. 2,495 ft.
Saxet Oil Co.'s No. 6 Dunn, 600 ft. S of No. 5 Dunn, 4 miles W from Corpus Christi ..... To be deepened.

LOS OLMOS POOL—STARR COUNTY

Hooks & Weaver's No. 3 Kelsey-Bass, 1,050 ft. to W line, 1,800 ft. to S line, Blk. 2, Subd. of Porcions 75, 76, 77, Jurisdiction of Camargo, Sur. No. 6 ..... T.D. 515 ft.; comp. 30 bbls.
Rio Oil & Gas Co.'s No. 1 Kelsey-Bass (formerly carried as Los Olmos Oil & Ref. Co.'s No. 1 Kelsey-Bass) ..... T.D. 910 ft.; drlg.
San Marcos Oil Co.'s No. 3 Ivey, 450 ft. W of No. 2 ..... T.D. 423 ft.; drlg.

CAROLINA-TEXAS POOL—WEBB COUNTY

Carolina-Texas O. & G. Co.'s No. 10 Barnsley, 150 ft. to E line, 200 ft. to S line of Blk. 14, Sur. 268 ..... T.D. 2,196 ft.; abnd.
Usher Carson's No. 4-D Webster, 150 ft. to S and W lines of NE quarter, Sur. 684 ..... T.D. 3,052 ft.; set csg.

ESCOBAS POOL—ZAPATA COUNTY

Allied Oil & Gas Co.'s No. 19 Guiterrez, 850 ft. from SW line, 150 ft. from SE line of Share 4, Fansler's Partition, Comitas grant ..... T.D. 1,465 ft.; comp. 125 bbls.
Allied Oil & Gas Co.'s No. 20 Guiterrez, 1,405 ft. from SW line, 150 ft. from SE line of Share 4, Fansler's Partition of Comitas grant ..... T.D. 1,474 ft.; comp. 125 bbls.
Brogan & Belcher's No. 1 M. Garza, 150 ft. to NE and SE lines, Blk. 62, C. A. Cougias Subd. of Zorro Ranch, Comitas grant ..... Derrick.
Daniels & Hill's No. 1 Montemayer, 150 ft. from S and W lines of Blk. 7, Sur. 64 ..... T.D. 1,315 ft.; tested oil, set csg.
F. H. Etheridge's No. 5 Bustamente, 1,540 ft. from NE line, 150 ft. from NW line of Sun 80-ac. lease, Share 35, Fansler's Partition, Comitas grant ..... Location.
Grayburg Oil Co.'s No. 1 F. G. Martinez, 150 ft. from S and W lines of 240-ac. tract in E½ of Sur. 4 ..... T.D. 2,118 ft.; standing.
O. W. Killam's No. 16 Jose Bustamente, 225 ft. from SW line, 150 ft. from SE line of Blk. 12, Share 5, Comitas grant ..... T.D. 1,458 ft.; comp. 20,000,000 ft. gas.
O. W. Killam's No. 2 Medina, 677 ft. SE, 150 ft. NE of most easterly cor. of Share 34, Fansler's Partition, Comitas grant ..... T.D. 1,469 ft.; comp. 200 bbls.
O. W. Killam's No. 13 Bustamente, 1,230 ft. from NE line, 150 ft. from SE line of Blk. 11, Share 5, Fansler Partition, Comitas grant ..... T.D. 1,435 ft.; comp. 500 bbls.
O. W. Killam's No. 17 Bustamente, 260 ft. from SW line, 250 ft. from SE lines Share 5, Fansler Subd., Comitas grant ..... T.D. 500 ft.; drlg.
Pray & Chamberlain's No. 4 Garza, Blk. 1, Comitas grant ..... 1,100 ft.; drlg.
Shankle & Murray's No. 2 Cuellar, 490 ft. from W line, 150 ft. from N line of Blk. 5, Sur. 61 ..... T.D. 2,010 ft.; abnd.
Trevino Oil Corp.'s No. 15-A Trevino, 150 ft. to S and W lines, Blk. 13, Sur. No. 412 ..... T.D. 300 ft.; drlg.
Winch & Billings' No. 6 Bustamente, 1,218 ft. from NE line, 150 ft. from NW line of 31-ac. Pal-Mar lease, Share 35, Fansler's Partition, Comitas grant ..... T.D. 1,470 ft.; comp. 125 bbls.
Winch & Billings' No. 7 Jose Bustamente, 1,574 ft. from tract, Share 35, Fansler Partition, Comitas grant ..... NE line, 150 ft. from NW line of 31-ac. Pal-Mar T.D. 500 ft.; drlg.

KILLAM-CUELLAR POOL—ZAPATA COUNTY

O. W. Killam's No. 47-B Cuellar, Sur. 277 ..... T.D. 2,590 ft.; abnd.

CHARCO-REDONDO POOL—ZAPATA COUNTY

Bob & Richey's No. 27 Martinez, 870 ft. to SE line, 150 ft. to NE line, Blk. 24, Duke Subd., Charco Redondo grant ..... T.D. 175 ft.; comp. 2 bbls.
Bob & Richey's No. 28 Martinez, 990 ft. from SW line, 615 ft. from SE line, Blk. 24, Duke Subd., Charco Redondo grant ..... Location.
Bob & Richey's No. 29 Martinez, 810 ft. from SW line, 360 ft. from SE line of Blk. 24, W. R. Duke Subd., Charco Redondo grant ..... Location.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 34)

L. C. Hivick's No. 1 Sunset Addition, NW SW NW, Sec. 17-11-3w ..... S.D. 5,515 ft.

PAWNEE COUNTY

Rookstool's No. 1 Wylie, NW NE SW, Sec. 6-20-5 ..... S.D. 1,950 ft.
Cochran et al's No. 1 Green, NE cor. SW, Sec. 15-23-5 .. Rig abandoned.

PITTSBURG COUNTY

Tape Oil Co.'s No. 1 Fulton, SE, Sec. 34-7-14 ..... S.D. 1,200 ft.
J. Morrison's No. 1 Fowler, NE SE, Sec. 12-7-17 ..... Rig.
C. Kennedy's No. 1 Travis, C SW NE, Sec. 15-7-14 ..... Rig.
C. Canady's No. 1 Jones, NW cor. Sec. 14-8-14 ..... Rig.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW, Sec. 23-12-24w ..... C.O. 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE, Sec. 4-11-26w ..... S.D. 3,375 ft.

WASHITA COUNTY

Miley Pet. Co.'s No. 1 Wolfe, NE SW, Sec. 23-9-17w ..... Location.
Cooper & Terhune's No. 1 Blocker, NW cor., Sec. 29-8-19w ..... Drlg. 2,740 ft.; show oil 2,459-67 ft.; S.D. 2,757 ft.
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 ..... Drlg. 1,265 ft.

OKLAHOMA PANHANDLE
TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW, Sec. 11-1-1E. T.D. 4,720 ft.; to cement.

SOUTHERN OKLAHOMA
ATOKA COUNTY

Morris et al's No. 1 Mansell, SW NW NW, Sec. 9-2s-12E.. S.D. 285 ft.
Brookshire's No. 1 R. W. Rowland, NW NE SE, Sec. 18-3s-10E ..... Landed 10-in. at 1,530 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW, Sec. 7-7-10E. T.D. 650 ft.
Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9E ..... T.D. 740 ft.; plugged back to 450 ft.
Whalem et al's No. 1 Mason, NW SE SW, Sec. 24-6s-9E... Drlg. 755 ft.

CARTER COUNTY

Lundy's No. 1 Spraggins, C NE NW SW, Sec. 8-1s-2W.. Rig.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE, Sec. 18-4s-8W ..... Location.

LOVE COUNTY

Autry et al's No. 2 Cross, CWL SE NE Sec. 27-6s-2 .... Show oil and gas 970-72 ft. and 1,324-34 ft.; S.D. 1,651 ft.
Schemerhorn et al's No. 1 Bourland, NE NW SW, Sec. 1-6s-1 ..... Drlg. 241 ft.

MARSHALL COUNTY

Everette et al's No. 1 Agres, SE NE, Sec. 14-7s-6 ..... S.D. 1,170 ft
Summers-Sellers' No. 1 Beams, NE SW NE SW, Sec. 20-7s-5 ..... Rig.
Newman et al's No. 1 Henry, NW cor. Sec. 32-7s-6..... Rig.

McCURTAIN COUNTY

Pramell et al's No. 1 Wagoner, SE NE, Sec. 5-8s-27 .... S.D. 150 ft.
Stampfs et al's No. 1 Harris, SW NW SW, Sec. 14-9s-25.. Drlg. 2,035 ft.
Stewart's No. 1 Patterson, C SE SE, Sec. 7-6s-24..... S.D. 770 ft.

PUSHMATAHA COUNTY

Whitehead et al's No. 1 Messer, SE SW SW, Sec. 35-3s-18 ..... S.D. 575 ft.

STEPHENS COUNTY

Dameron & Brock's No. 1 Dameron, SE SW NE Sec. 11-3s-6W ..... Drlg. 220 ft.
Brown's No. 1 Hightower, SW SE NE, Sec. 16-3s-5W..... Sand 990-1,004 ft.; S.O.; S.D.
George's No. 1 Ryan, NW SW NE, Sec. 31-3-15 ..... S.D. 120 ft.

EASTERN FIELDS

(Continued from Page 44)

His second test on the Central Trust Co. tract is down 2,652 feet, at which depth water is being shut off. He has made locations for No. 6 on the Mary Dickinson farm and for No. 3 on the J. Q. Dickinson farm.

The deep test of the United Fuel Gas Co. on the J. W. Hinzman farm in Curtis district, Roane County, is now down to a depth of 8,985 feet. In the same district, W. B. Heater has hauled in the material for a test on the T. C. Burdette farm, and E. R. Lester and and others have part of the material on the ground for a test on the F. H. Bee farm. In Spencer district the Ohio Valley Gas Corp. has part of the material on the location for No. 15 on the R. M. Jennings farm; J. P. Young and others have a rig standing on the Dan Connally farm, and George Smith and others are rigged up for a test on the C. A. Kendall property.

The Clifton Oil & Gas Co. has part of the material ready for a third well on the J. L. Looney farm in Harper district, Roane County.

The test of the Shimwell Oil & Gas Co. on the W. J. Price farm in Grant district, Wetzel County, is shut down after being drilled to a depth of 3,053 feet on account of the tools being stuck in the hole. Ray Hennen and others have a rig standing on the Jesse Parson farm, as has the Manufacturers Light & Heat Co. for No. 1,572 on the D. W. Stewart farm in Church district. This well is an old one slated to be drilled deeper as is No. 3,300 on the W. P. Hubbard farm in Clay district.

SOUTHWEST PENNSYLVANIA

The American Natural Gas Co.'s test operation on the Robert Herwig farm in Quemahoning Township, Somerset County, is reported as dry after the tools had been sunk to a depth of 3,195 feet. There was a very light showing of gas. This well will be drilled about 90 feet deeper in the sand and if nothing is found, it will be plugged and abandoned. This was the only report of a completed operation in the Southwest Pennsylvania division.

In East Finley Township, Washington County, the West Virginia Natural Gas Co. has a rig standing on the S. W. Stout farm, also for a test on the Susan Stout farm. In the same township, a stock company has a rig standing for No. 3 on the Institute of Practical Arts property. The test of a stock company on the A. Woodruff farm in Chartiers township has been drilled down to 2,500 feet. The Hopewell Oil & Gas Co.'s test on the Albert Noble farm is now at 1,350 feet and the William Dallmyer test on the Thomas Brown farm is at 1,450 feet. Both of these farms are in Smith Township. The Henry Seik farm test belonging to the Hickory Penn Gas Co. has been drilled to 1,300 feet. This farm is in Mount Pleasant Township.

Schaffer & Co. are constructing a rig on the Henry Schaffer property in North Fayette Township, Allegeny County, for a third well. The test of the Andrews Brothers on the J. P. Ramsey farm in Hanover Township, Beaver County, has been drilled to 1,050 feet, and the test of the Union Gas & Oil Co., located on the W. B. Smith farm in East Finley Township, Washington County, is now drilling at 2,930 feet.

W. I. Goettman has his test on the J. C. McKinney farm in Adams Township, Butler County, shut down after sinking the tools to a depth of 2,120 feet. A local syndicate is drilling at 600 feet on the W. M. Martin farm in Richland Township, Allegheny County. Both of these farms are located in the Brush Creek district.

CALIFORNIA FIELDS

(Continued from Page 43)

ences existing between operators and the Department of Natural Resources is expected to be ironed out within the near future. Next week Mr. Bennett will attempt to adjust production difficulties at Ventura Avenue and will attempt to tie in the production of natural gas of the Elwood Field with that of the Ventura Avenue Field so that during the coming summer months waste of natural gas will be reduced to a minimum. The Barnsdall-Rio Grande interests are the only operators which have a contract for the disposal of gas production in the Elwood Field but if present plans are carried out the total production of the field will be handled as a single unit.

Drilling operations in the Ventura Avenue Field, despite the fact that the Associated is grading location for a new well, No. 131 Lloyd, have reached the lowest level recorded in several years. It is the present intention of all operators in this field to eliminate all unnecessary work during 1932, with the result that present development will show a further reduction a little later on. The Bolsa Chica Oil Co. recently passed the 8,200-foot level in No. 6 Hartman, a deep test which is being carried on down in an effort to pick up the deep virgin zone encountered by the Associated Oil Co. several months ago. This horizon is still in a virgin state as the discovery well was shut in immediately subsequent to completion. The Continental Oil Co.'s No. 1 Grubb in the San Miguelito Field of Ventura County has been beaned back to 155 bbls. per day in conformity with the existing curtailment program. No further drilling has been undertaken by either the Continental or the Chanslor-Canfield Midway Oil Co. in the San Miguelito Field and it is the present intention of both operators to restrict development work wherever possible.

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Report Chicago Market Strengthening

Tank Wagon Price Firmer as Result of Improvement in Tank Car Market. Ohio Cuts Local and Not Unsettling

By Robert C. Conine
Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, Jan. 18. — Continued strengthening of the refined petroleum products markets in the territory in spite of growing apprehension over developments in East Texas and the high levels reached by gasoline stocks in storage, to mention only two adverse influences, is explained in oil trade circles here as positive indication that excess material is in the hands of refiners who can afford to hold for a fair price, and that whatever decision may be reached by federal authorities in regard to methods of enforcing crude oil production curtailment, the producers will oppose a return of unrestricted production in any area.

Distributors and brokers in Chicago district say that the huge accumulation of gasoline reported at refineries is not making it any easier for them to obtain supplies at current open market prices. These buyers contend that practically all former sources of refined products where they were able to obtain material at the low or slightly under the spot markets have either closed down their plants entirely or are operating at a level which hardly suffices to meet current obligations.

Ohio Cuts Not Unsettling

Standard Oil Co. of Ohio, effective January 16, cut service station and tank wagon gasoline prices throughout its territory, and at the same time shortened the margin to the retailer, to meet price cutting competition. The service station posting on the regular grade was reduced from 16 to 14 cents, while the tank wagon price was cut from 15 to 13.5 cents. With the 2-cent discount the dealers' margin becomes 2.5 cents instead of 3 cents. The kerosene tank wagon price was reduced from 12 to 10.5 cents, while all naphtha prices were cut 1 cent. W. T. Holliday, president of the company, stated that the general downward revision did not come as a result of conditions in the industry at large, but as the result of local price cuts, co-operative tank car buying and various forms of special discounts to buyers in the territory. Mr. Holliday expressed the hope that the Ohio reductions would not have a detrimental psychological effect on crude oil and tank car markets, because the general condition of the industry has been improved considerably.

Major marketers in Chicago district feel that the Ohio company's reductions will have no effect on the markets in this territory and they point out that in the past revisions in the Ohio territory have been considered in the nature of local adjustments without particular bearing on conditions in adjacent states. Only in the special naphtha field are the revisions expected to show any response outside the territory, and here the adjustments to commercial accounts in Ohio territory by Chicago district marketers may be considered sufficiently covered by earlier price cuts made to obtain the business in that territory.

Tank Wagon Prices Firmer

Gasoline tank wagon prices in the territory are reflecting additional strength as the result of improvement in the tank car markets, and the threat of a general downward revision in the regular grade is in abeyance for the time being. In the third grade the service station price reductions have been fewer, with only one recorded last week and that only two-tenths of a cent at Saginaw. The prospects for immediate activity on the part of the larger companies to meet premium and cut-price competition by drastic cuts in the third-grade material appear more remote as these larger sellers indicate that new developments in the price cutters' campaign are favorable to the retailers who are refusing to give premiums. According to some investigators the public is losing confidence in the service station operators who give them half a pound of bacon, or some other consideration, with their purchases of gasoline. For this reason, an official of one of the nonpremium sellers said, they feel it is advisable to await further developments.

Legitimate Sellers Helped

Legitimate sellers, those who pay the state every cent of the gasoline tax they collect, have been relieved in a large measure of the unfair competition from dealers who have not been so scrupulous. Investigations which have just been completed bring out facts which are not only indicative of progress in enforcement of the gasoline tax laws, but are also pertinent to discussions of gasoline tank car markets and reveal a fallacy in consumption estimates.

Gasoline consumption figures have been based (and still are) on gasoline tax receipts by the various states, and the contention that recent increases in reported gallonage is due to improvement in the enforcement of the gasoline tax laws and not to increased consumption is supported by the following findings.

Findings Show Gallonage Decline

Comparison of the gallonage of the four largest companies in the territory in the months of July, August, September and October of 1930 and 1931 show the following declines in 1931 gallonage: Company A dropped from 11,200,000 gallons in 1930 to 8,200,000 gallons in 1931, Company B dropped from 11,080,000 gallons in 1930 to 9,400,000 gallons in 1931, Company C dropped from 28,700,000 gallons in 1930 to 25,300,000 gallons in 1931 and Company D dropped from 9,800,000 gallons in 1930 to 9,400,000 gallons in 1931—a total decline for the four companies of 13,480,000 gallons.

Startling Gallonage Advances

However, several marketers whose gallonage during the first half of 1931 escaped the scrutiny of the gasoline tax enforcement agencies, showed a remarkable improvement in business from July to the close of the year. The last half of the year marks the period when the Illinois Gasoline Tax Evasion Committee got to work with a host of special investigators. The history of two companies who suddenly made their appearance on the tax lists is as follows: Company A paid no tax in July and August, but in September the gallonage jumped from a theoretical zero to 172,000 gallons, and in October the gallonage of this company reached 297,000. Company B jumped from a theoretical zero to 75,000 gallons in July, 100,000 gallons in August, 289,000 gallons in September, and slipped back to 215,000 gallons in October. The gallonage figures of just these two companies would indicate an increased consumption of 1,148,000 gallons. In connection with the campaign against gasoline tax evasion it is interesting to note that in Kansas tax exemptions were cut from 19 per cent in 1930 to 12 per cent in 1931, and taxes collected in December, 1931, were $660,889 more than for December, 1930. In this state there are now 200 prosecutions under way for alleged forgery of tax exemption blanks, three persons are in jail and 15 persons have been arrested. Other states where gasoline tax evasion committees are at work likewise show increases in gasoline tax collected.

In view of the various constructive features in the petroleum products markets, prospects as seen by Chicago oil trade circles are brighter than they have been in months. This does not ignore the uncertainty caused by the feeling that the federal court decision in Texas may find against Governor Sterling's martial law enforcement of crude oil production curtailment, nor the misgivings caused by huge additions noted in gasoline stocks in storage. Several of the smaller refiners have told their customers they expect a break in the gasoline markets, but so far this warning has not been accompanied by corroborative price offerings for future delivery. The opposite view is taken more generally, and several major refiners say they are out of the market and proceed to dumfound prospective customers by quoting a price of 4¼ cents on U. S. Motor of no octane specifications.

In the matter of jobber buying it may be said that extreme caution is being shown both by the buyer and the seller. The greater portion of gasoline available is in "good hands," while the quantity held by distributors and jobbers requires day-to-day additions. The weather man has given a weird performance and his prediction of near zero weather were so far ignored that heat records were broken; his prognostication of snow was mocked by spring-like sunshine and warmth, with the result that for seasonal considerations both the heating oils markets and the gasoline markets showed parallel activity. The precaution of radiator alcohol was another unprofitable concession to barometers and isobars.

Jobbers are not adhering closely to octane differentials published. In fact, the majority refuse to consider a premium price for gasoline below 60 or 62 octane number. One of the major companies has advanced the octane rating of its third-grade gasoline to 58, and others are expected to follow. Major marketers with which the matter was discussed said that the jobbers are reluctant to make contract agreements under the current wide ranges allowed in octane specifications. The jobber is willing to pay a quarter of a cent premium for 60 octane gasoline, but not for 58 octane material. A half-cent premium is paid for 65 octane gasoline, and an additional quarter-cent for 70 octane material. However, there is still a considerable number of buyers who believe that a gasoline need not have an octane rating of more than 54 to be good.

Gasoline Tank Car Markets

Prices have again advanced throughout the entire list of gasoline tank car markets, and Monday were considered strong at the new levels. The U. S. Motor gasoline of no octane specifications moved up an eighth of a cent to a range of 2⅞ to 3⅛ cents, with the prediction generally made that the close of the week would show a price low of 3 cents or better, unless unforeseen developments break the markets. The 60-62 400 endpoint gasoline is gaining in popularity for seasonal considerations and shows a new range of 3⅛ to 3⅜ cents. The 64-66 375 endpoint gasoline moved up a quarter of a cent to a range of 3¾ to 3⅞ cents. Aviation gasoline, fighting grade, advanced an eighth of a cent to 4⅞ and 5⅜ cents. The 68-70 350-360 endpoint material moved up to 4 and 4¼ cents.

Naphtha Tank Car Prices

Due to increased competitive conditions at this time of year the betterment in the gasoline markets the past week has not been reflected in the special naphtha markets. Blending naphtha, 50-52 450 endpoint, advanced an eighth of a cent to 2¾ and 3 cents. It is reported that this naphtha and kerosene are finding increased use as cracking stock. There are some indications that price cutting lies ahead of the naphtha business and for this reason prices are holding generally unchanged, as follows: Cleaners' naphtha, 5⅝ to 5⅞ cents; lacquer diluent, 250 endpoint, 8⅝ to 8⅞ cents; lacquer diluent, 200 endpoint, 8⅞ to 9⅛ cents; rubber solvent, 5⅝ to 6⅛ cents; Stoddard solvent, 4⅞ to 5⅛ cents; petroleum thinner, 4⅜ to 4⅝ cents; V.M.&P. naphtha, 5¼ to 5½ cents; petroleum spirits, 4 to 4½ cents.

Naphtha specifications of one of the companies which has in comparatively recent times become an important factor in the naphtha markets of the territory differ slightly from those of the other principal sellers. These are: Light rubber solvent—Gravity, 71-73; initial, 115-125; endpoint, 240-260; 30 color. Standard rubber solvent—Gravity, 67-79; initial, 105-115; endpoint, 280-300. Cleaners' naphtha—Gravity, 56-58; initial, 212-220; endpoint, 320-330. V.M.&P. naphtha—Gravity, 56-58; initial, 212-220; endpoint, 320-330. Stoddard solvent—Gravity, 48-50; initial, 325-335; endpoint, 390-400; flash, 105-115; under 2 per cent unsaturages. Petroleum spirits—Gravity, 47-49; initial, 330-340; endpoint, 400-410; flash, 110-120; under 2 per cent unsaturates. A heavy cut (mineral seal) has 35-37 gravity, 520-535 initial, 590-600 endpoint, 16-21 color and 260-270 flash (open cup).

The present adverse condition in the naphtha field, it is reported, results from the efforts of newcomers to make inroads into the business of the older companies. Whenever a good contract is at stake, marketers say, the buyer can obtain naphtha at prices considerably below the nominal markets. It is pointed out that there is a demand for just so much of the naphthas and that no amount of price cutting will increase the consumption, as might be possible in the motor fuel field. One refiner estimates that the total point solvent business of four major companies handling naphthas is hardly more than 6,500 cars a year, while the total for rubber solvents shrinks to a negligible quantity when compared with the gasoline business. This refiner estimates the cleaners' naphtha volume of the four major sellers at little more than 4,500 cars a year.

Kerosene Tank Car Markets

The kerosene tank car markets Monday had advanced an eighth of a cent. There are indications that not all of the kerosene bought by refiners is for export trade, but that some of it is being reformed to produce antiknock gasoline. The 41-43 water white material is quoted in the district at 2⅝ to 2¾ cents, and the 42-44 water white kerosene is posted at 2¾ to 3 cents. Good prime white distillate is reported scarce and a good buy at 1⅞ cents for resale.

Gas Oil and Fuel Oil

Slight price advances are noted this week in the fuel oil and gas oil markets. One of the products which has been held down by offerings of recycle stock moved out of the rut to advance an eighth of a cent. This is the 32-36 industrial gas oil which is now quoted at 1⅜ to 1½ cents. The 18-22 fuel oil remained unchanged at 25 to 30 cents after an advance last week from 22½ to 27½ cents. The 28-30 zero fuel oil is unchanged at 50 to 60 cents, although some resellers say they can make better buys now than was the case a week ago. Below 18 fuel oil is likewise unchanged at 20 to 25 cents. The 32-36 and the 38-40 straw furnace oils have advanced another eighth of a cent, the 32-36 material going to 1⅞ and 2⅛ cents and the 38-40 material moving up to 2⅛ and 2¼ cents.

Better Feeling in the East Coast Area

Notwithstanding Current Softening in Prices Marketers Can See Definite Indications of Permanent Improvement

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Jan. 18.—Recent price cutting in East Coast refinery gasoline markets culminated this week in a general reduction of one-half cent per gallon in the posted price, bringing the market for U. S. Motor gasoline of 65 octane number and above to 6 cents per gallon. The posted price for U. S. Motor under 65 octane number is nominally 5¾ cents, although 5½ cents has been done in several directions. Refinery sales of motor fuel were fairly well maintained throughout the week, during which a record warm spell occurred, and the current drop in quotations is due more to competitive conditions than to seasonable loss of demand.

Export gasoline prices also softened during the week, in sympathy with continued quiet demand and easy domestic markets. Export kerosene, on the other hand, was strong and in demand, and sellers at the Gulf advanced their quotations by a quarter cent per gallon on both water white and prime white grades.

The definite recommendation by Governor Roosevelt that the New York State gasoline tax be increased from 2 to 4 cents per gallon, to take effect immediately, has aroused considerable opposition in local oil trade circles, especially so in view of the fact that the added tax will go entirely to reduce the state deficit and will not be used, in any part, for road construction. Even at a tax level of 2 cents per gallon, widespread gasoline bootlegging has been reported in New York, and an increase in the tax rate to 4 cents per gallon is expected to result in further demoralization in retail market circles. While the petroleum industry is definitely lined up against the proposed increase, it appears at this writing that the higher rate will be enacted into law without much difficulty.

Better Feeling Prevails

Notwithstanding current softness in the position of the refined products markets, sentiment in East Coast oil trade circles has undergone a definite change for the better since the turn of the year. The industry has met with considerable progress in reducing inventories of refined products, it is pointed out, and while these surplus holdings are not yet at the point where markets might be termed thoroughly stabilized, further curtailment is indicated by continued holding down of refinery runs. While the crude oversupply situation has not yet been fully corrected, a satisfactory outcome of current conservation measures is looked for. The important situation is now well in hand, and the pronounced sentiment in favor of an import tariff on both crude and products is expected to lead to definite action in that direction by Congress during the current session.

Refinery Gasoline

Standard Oil Co. of New York took the initiative in reducing the refinery tank car price of U. S. Motor gasoline in line with price levels which had been quoted in "competitive" sales for the past week or so, and cut its posted price from 6½ to 6 cents per gallon, effective January 14. Standard Oil Co. of New Jersey immediately met the reduction, and other leading sellers followed later.

Under the stimulus of record warm weather, with the thermometer standing at above 65 for several days in succession, consumption of gasoline was well maintained throughout the period. Jobbers, however, continued to restrict their operations in the tank car market, anticipating the reduction which went into effect late in the week, and considerable price shading was reported prior to the cut in the posted figure. Following the reduction, however, distributors came back into the market in a large way, and were generally filling up storage.

While the present price cut had been indicated as a probability for the past fortnight, it is felt in some quarters of the trade that the 6 cents level will be short-lived, and that the market will be back at 6½ cents in the near future. Once the price cutting sellers have been convinced of the willingness of major marketers to meet price competition, it is believed, the market will be back on a basis more nearly in line with the refinery situation. At a 6-cent price level at New York harbor refinery terminals, it is said, the netback to refiners is extremely low.

Refinery sales of premium gasolines held up fairly well during the period under review, the spell of mild weather being too short in duration to adversely affect retail sales of leaded gasolines.

Tank Wagon Gasoline

In as much as East Coast tank wagon and service station gasoline market prices had been sharply reduced during the latter part of 1931, the current downward revision in the refinery price schedule has not had any repercussion in the tank wagon market, prices holding unchanged throughout the territory.

The pending advance of 2 cents per gallon in the gasoline tax rate in New York State, it is felt, will militate somewhat against consumption totals in this area, and at the same time lead to further expansion in the operations of gasoline bootleggers, and the marketing industry operating in New York faces the higher tax rate with some trepidation.

Although the current cut of one-half cent per gallon in the refinery price for U. S. Motor gasoline in tank car lots gives independent marketers an additional half cent margin to work on, it is not expected that the current revision will lead to intensified price cutting. The price slashers, it is explained, have been getting their supplies of motor fuel from sellers who were already a half to three-quarters cent per gallon under posted prices, and in as much as these latter have not further reduced their quotations following the change in the posted price levels of leading refiners the competitive situation remains unchanged.

Leading marketers are following a policy of meeting local competition as it develops and this practice, a variation from the older policy of making uniform price revisions throughout an entire marketing territory, appears best suited to cope with the activities of the price cutters.

Principal marketers are maintaining the usual differentials on leaded premium gasoline grades, and report a good demand for the higher priced motor fuel. With leading automobile manufacturers featuring high compression in their new models, the outlook in this branch of the market continues favorable.

Kerosene

Gallonage in the refinery kerosene market has been well sustained during the past week, and leading refiners continue to hold to the posted price of 6 cents per gallon for 41-43 water white in tank car lots at refinery terminals.

Consumption of kerosene continues to run into large totals, and tank wagon and service station prices hold steady and unchanged throughout the entire territory. Tank wagon deliveries are reported to be running in excess of those at this time last season.

Lubs

Bright stocks have again eased off under continued selling pressure and both the light and the dark grades are quoted 2 cents per gallon lower locally at 27 to 28 cents per gallon and 26 to 27 cents, respectively, for the barreled product in carloads, f.o.b. Bayonne. Other grades of cylinder oil were without change during the period, although an easy undertone still ruled. Demand continued limited to small quantities for prompt and near-by delivery.

Industrial oils were without quotable change during the period. Refiners reported that tank car movement had picked up a little, and increasing activity was reported from several consuming trades, notably the textile industry.

Fuel Oil

Routine activity was reported in the bunker oil market throughout the week, and the posted price for the "C" grade of oil held unchanged at 60 cents per barrel, in bulk, f.o.b. refinery terminals.

Deliveries to marine consumers against term contracts were running into satisfactory totals, and refiners reported some pickup in the demand from industrial users. Heavy surplus stocks at refineries continue to militate against the price basis.

Considerable interest in the tariff situation is manifested by fuel oil interests. An import duty of $1 per barrel on crude oil, and tariffs on refined products imports, it is felt, would have an immediate strengthening effect upon the domestic heavy oil market.

Diesel Oil

Deliveries were well maintained during the week, and refiners continued to hold to the posted price of $1.30 per barrel, in bulk, f.o.b. refinery terminals, for 28-30 oil.

Shipments against standing contracts were accounting for the bulk of the business during the week, although refiners reported a moderate volume of business in the spot market.

Gas Oil

Gallonage in the tank car market ran into substantial totals for the week, refiners reported, with the market situation unchanged.

The posted price for 28 gravity plus recycled oil holds at 4 cents per gallon, refinery, but business is being freely done at 3½ to 3¾ cents on the spot position, with contract shipments likewise going out at the lower figure. Refinery stocks of gas oil continue heavy, and the market remains in easy position, from the statistical standpoint.

Paraffin Wax

Spot demand continued of limited volume, and tonnage booked during the week was of relatively small amount. Consuming manufacturers have not contracted for their spring requirements in anything like the usual volume, however, and sellers look for an early increase in activity in the spot market. There were no price changes recorded during the week on either crude scale or fully refined grades.

Furnace Oil

Prices were steady in both the refinery and tank wagon markets. Gallonage fell off somewhat during the period, warm weather retarding consumption.

Considerable opposition has developed in the furnace oil trade to the proposed tariff on petroleum imports, and an official protest against the imposition of import duties has been filed by oil burner manufacturers.

Export Market

Another quiet week was reported in the Gulf export market, no cargoes being reported. Export quotations on gasoline were lowered during the period, current quotations being 4½ cents per gallon on U. S. Motor, a reduction of one-quarter cent; 4⅝ cents on 60-62 400 endpoint and 61-63 390 endpoint, off one-quarter cent per gallon in both instances; and 4¾ to 5 cents per gallon for 64-66 375 endpoint, a reduction of one-eighth cent per gallon on the inside figure.

Export kerosene, on the other hand, was quoted up one-quarter cent per gallon at the Gulf, at 4¼ cents for 41-43 prime white and 4½ cents per gallon for 43-45 water white.

Reports from Paris indicating that the French government had signed a contract with Rumanian producers covering the importation of considerable quantities of refined products is expected to react further against export volume in the American Gulf market. The Rumanian contract, it is believed, will take considerable of the open-market business away from the Gulf, although it is not expected to react against export shipments from the Gulf on the part of the large integrated companies with French marketing affiliates.

There was no further activity reported on either Mexican or Venezuelan crude petroleum during the week, with the markets for both oils reported holding steady at recent quotations.

Petroleum Exports

There was a sharp falling off in exports of refined petroleum products reported locally, and continued quiet in the spot market, from the standpoint of inquiries, pointed to further slackness in export quarters.

The following table shows refined petroleum products exports from the local port for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Jan. 9	Jan. 2	Dec. 26
Gasoline	100,000	15,000	127,000
Naphtha		10,000	595,000
Kerosene	10,000	140,000	110,000
Fuel oil	10,000	5,000	50,000
Lub. oil	2,105,000	4,240,000	791,000
Petroleum, ref'd.	260,000	35,000	480,000
	Pounds		
Petrolatum			
Paraffin wax	1,325,000	1,495,000	1,975,000
Refined			1,149,000
Scale	265,000	50,000	15,000
Lub. grease	345,000	875,000	700,000

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended January 9 totaled 1,269,000 bbls., a daily average of 181,286 bbls., compared with 1,743,000 bbls., a daily average of 249,000 bbls. for the previous week, and a daily average of 208,000 bbls. for the four weeks ended January 9. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast Ports—	
Baltimore	216,000
New York	622,000
Philadelphia	70,000
Others	181,000
Total	1,089,000
Daily average	155,571
At Gulf Coast Ports—	
Galveston district	65,000
New Orleans and Baton Rouge	115,000
Total	180,000
Daily average	25,715
At All United States Ports—	
Total	1,269,000
Daily average	181,286
Daily average four weeks	208,000

Distribution of total imports is as follows:

Crude	527,000
Gasoline	435,000
Fuel oil	307,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf

(Continued on Page 63)

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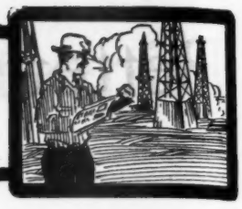

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BETTER FEELING IN THE EAST COAST AREA

(Continued from Page 61)

Coast ports for the week ended January 9 totaled 222,000 bbls., a daily average of 31,714 bbls., compared with 561,000 bbls., a daily average of 80,143 bbls., for the previous week, and a daily average of 44,500 bbls. for the four weeks ended January 9. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast Ports—	
Baltimore	25,000
New York	80,000
Philadelphia	117,000
Total	222,000
Daily average	31,714
At Gulf Coast Ports—	
All ports	None
At Atlantic and Gulf Coast Ports—	
Total	222,000
Daily average	31,714
Daily average four weeks	44,500

All of the week's receipts consisted of gasoline.

Shipments of California refined products for Atlantic and Gulf Coast ports reported during the week were as follows:

For New York—97,500 bbls. of gasoline on the China Arrow (Standard Oil Co. of New York).

For Seawaren, N. J.—89,000 bbls. of gasoline on the Christy Payne (Standard Oil Co. of New Jersey).

For Port Arthur, Tex.—65,000 bbls. of gasoline on the Harvester.

Charter Market

Continued dullness ruled in the tanker charter market during the past week, no fixtures being reported involving export shipments of American refined products.

Many of the large American oil companies have a substantial proportion of their tanker fleets laid up out of service, operating only a few vessels to take care of regular shipments and in some instances chartering vessels in the open market when additional tonnage is required for single runs.

Fixtures reported during the week were as follows:

Steamer Ramona (Italian) 2,215 tons net, part cargo fuel oil, balance gas oil, Batoum to Havre, 8/6, January loading.

Motorship Katendrecht (Dutch), 6,200 tons, clean, Constanza to Rouen 7/6, with options, March loading.

CANADIAN FIELDS

(Continued from Page 38)

covery have been made, but it should run over 250 bbls. a day, flush production.

In the Mercury area, Miracle Oils' No. 3, LSD 11, Section 4-19-2w5, which recently cemented casing 60 feet in the lime at 5,540 feet is reported drilling out cement and should get production within a couple of weeks. This test is east of Mercury's No. 1 big producer. As soon as Miracle's No. 3 is finished, the outfit will be moved over to resume drilling on Miracle's No. 2, LSD 16, Section 5-19-2w5, which has been standing for some months at 5,598 feet. Hylo's Oils' No. 1, LSD 12, Section 4-19-2w5, is reported preparing to cement casing in the lime preparatory to drilling into production. The test got the lime at around 5,420 feet.

In the far south, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, is standing cemented at 2,845 feet.

Central Turner Valley

In Central Turner Valley, McLeod Oil Co.'s No. 1, LSD 16, Section 1-20-3w5, is reported cleaning out in the lime below 3,850 feet with occasional small shots of dynamite. Regent Oil Co.'s No. 3, same LSD, is reported drilling in the lime at approximately the same depth.

Tests May Resume

It is unofficially reported that arrangements are being made by independent oil interests at Calgary and Vancouver for resumption of drilling on four unfinished tests in various parts of the Turner Valley. In the far south, Livingston Syndicate's No. 1, LSD 5, Section 34-18-2w5, which has been standing cemented at 2,160 feet, is reported getting ready for further drilling. This test is fairly close to Sterling Pacific Oil Co.'s No. 2, in Section 33-18-2w5, which was recently brought in as a good producer. East of the Home tract, Alberta Superior Oils' No. 1, LSD 5, Section 21-19-2w5, spudded in a couple of years ago but carried to only 65 feet, may be completed this season by other interests. Section 20, where the Home wells were drilled, was the first important producing area in South Turner Valley and was for years very prolific; but Section 21 has not been adequately tested.

Mid-Royal Oils' No. 1, LSD 4, Section 31-19-2w5, is another unfinished test standing at 2,140 feet and which may be completed by other interests. The location is about midway between the central and South areas; but, unlike Section 21, it already has several good producing wells.

A fourth test is Turner Basin Oils' No. 1, LSD 2, Section 27-20-3w5, in North Turner Valley. This test is already down 3,843 feet, and is somewhat north of Model Oils' No. 1 producer in Section 22-20-3w5. In the latter section, Model Oils, Ltd., is reported preparing to resume drilling at 3,575 feet on Anaconda Oil Co.'s No. 1, LSD 16; the lease, drilling outfit and unfinished test having been taken over by the Model company.

Except for the Anaconda test, no definite announcement has been made of any deal, but negotiations in some of the other cases are reported fairly well advanced.

Conservation Policy Discussed

Alberta provincial government officials and members of the advisory conservation committee are holding a conference in Calgary this week to discuss further steps in the development of the government's conservation measures. The failure of the various interests concerned to agree to the government's scheme for unit operation of the Turner Valley Field will, it is anticipated, necessitate the working out by the government of some other method of handling the situation. In the meantime, the field is operating under government restrictions, with the crude naphtha production fairly stabilized at a figure less than half the peak naphtha recovery. Operators have been strongly urging some modification of the regulations governing oil and gas development, and it is understood this matter is also being considered.

Border Fields

In the southern Alberta border areas, heavy snow has interfered somewhat with drilling operations. On the Milk River structure, Commonwealth Petroleums' No. 1, LSD 8, Section 9-3-15w4, has rotary outfit rigged up and is completing water well. Drilling will resume in the Devonian limestone at 5,090 feet.

On the Twin River structure, Parco Oil Co.'s No. 1, LSD 16, Section 34-1-20w4, which has been plugging back to shut off water, at last reports was testing the shutoff. As soon as this is found satisfactory, testing of production from the Madison lime around 3,870 feet will be commenced. Bailing production at the rate of 125 bbls. a day was claimed from this horizon.

On the Keho Lake structure, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, is reported cleaning out and will plug back preparatory to sidetracking lost tools. The hole, which bottomed at 4,925 feet, will be plugged back about 150 feet above the limestone contact; after which it will be drilled past the lost bit to the oil horizon in the Madison.

On the Lethbridge structure, Texas-Imperial's No. 1, LSD 14, Section 22-8-22w4, is reported drilling below 4,471 feet. Rumors that the drill had entered an oil sand are officially denied, though the test is getting close to a potential producing formation.

Montana Border Strike

Canadian operators are showing considerable interest in the strike reported in the Whitlash area south and east of the international Reserve Dome structure. The discovery well, started as a test for gas, got some oil at 1,590 feet and had 35 feet of oil saturated sand at 1,630 feet, swabbing, under unsatisfactory conditions, about 45 bbls. in 14 hours. After experiencing some casing trouble it was decided to drill to the red beds and when down about 100 feet, a second flow was encountered in a 20-

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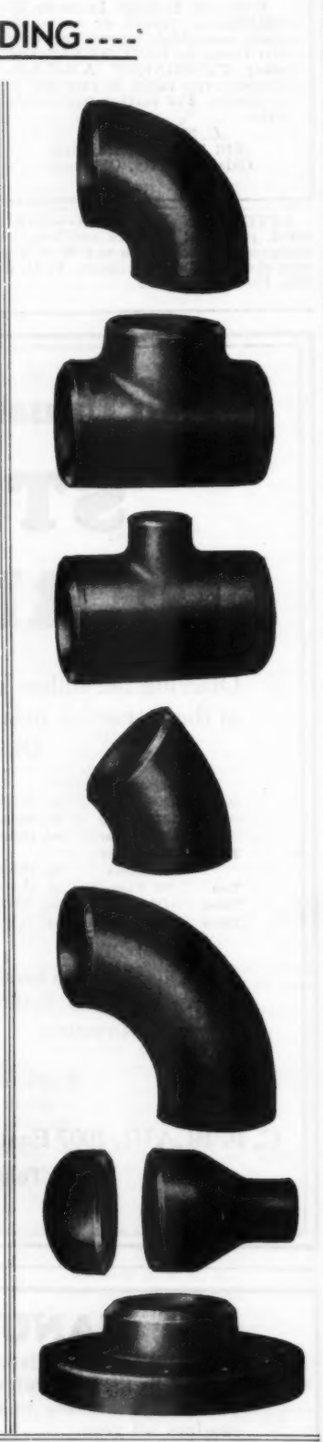

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foot sand. Mayland Southern's No. 1 on the Canadian end of the Reserve Dome got gas at horizons which appear to approximate the two upper oil horizons in the Whitlash well.

Wainwright Deep Test

In East Central Alberta, Montreal-Alberta Petroleums' No. 1, LSD 2, Section 15-45-7w4, in the Wainwright Field is reported resuming after cementing casing at 2,650 feet, and will deepen for a test of the limestone.

Red Coulee Field

On the Montana end of the international Red Coulee structure Cosmos Petroleum Co.'s No. 3 Iowa, NE SE Section 2-37-4w, is reported drilling considerably below 2,200 feet and should get the sand very shortly.

Tests in the Foothills

On the Monarch structure northwest of Calgary, Cartier-Majestic's No. 1, LSD 3, Section 36-31-7w5, is preparing to resume at 1,135 feet after a shutdown for the holiday season. The test started with a big hole and can run 18⅝-inch casing to bottom, though recent logs indicate the test may be considerably shallower than was first anticipated. Other tests in the foothills are reported inactive owing to the holiday season and unfavorable weather conditions.

Manitoba Gas Test

In southwestern Manitoba, near Manitou, Commonwealth Petroleums' No. 2, LSD 2, Section 26-2-9wPM, is reported resuming at 1,300 feet after the shutdown for the holidays.

Drilling in Ontario

An important test is being drilled in Lot 10, Concession 12, Brooke Township, Lambton County, Ontario, for Michigan Pacific Oil & Gas Co. Location is on or near the Kenneth Holbrook farm, and Don Willets of Bothwell is handling the drilling. For many years it has been claimed that this area, known locally as the "Brooke swamp" was a good prospect for shallow oil, similar to that found farther west in the Petrolia-Enniskillen and Oil Springs Fields. The test has, however, been carried to 640 feet without encountering production. This is below the usual producing horizon in the Ontario shallow pools. The hole is now being reamed out and will be continued to around 2,000 feet, in the hope of encountering commercial gas production. The location is northeast of the Dawn gas field and northwest of the gas production discovered more recently by Southern Ontario Gas Co. near Newbury.

In Kent County, Olga Oil & Gas Co.'s No. 5, Jenner Side Road, Raleigh Township, is resuming after casing to about 1,000 feet. In the old Tilbury Field, Ralph Dawson's No. 2, SW, Lot 3, Concession 15, Tilbury East Township, is reported drilling around 1,100 feet and should get the Tilbury gas horizon very shortly.

In the Bothwell Field, Kent County, E. B. Holmes has purchased the oil properties of the J. H. Fairbank estate. The property, comprising some 60 wells, is one of the best producers in the Bothwell shallow pool. Mr. Holmes, who has been for years a driller in foreign fields, returned from Persia about a year ago.

In the Niagara area, Continental Gas Corp. of Toronto is continuing drilling operations in Binbrook Township, Wentworth County. Continental's Nos. 7 and 8 have been brought into production and are reported fair commercial gassers. This makes a total of nine producing wells drilled in this area by the Continental and allied interests. Continental's Nos. 9 and 10 are reported starting, and it is planned to continue two rigs in steady operation. Seven of the producing wells are now delivering gas to Dominion Natural Gas Co. which has contracted to take production at 30 cents per 1,000 feet, for a 10-year period. Continental Gas Corp. also holds acreage in the Bayham, Middleton, Dereham, Mosa and Ekfrid Fields, aggregating some 3,000 acres, but will for the present concentrate on its Binbrook holdings.

In Oxford County, Ajax Oil & Gas Co.'s No. 1 is reported to have started drilling. The company has an interest in a block of 1,000 acres north of Tillsonburg and a deep test is planned. The company has acreage also which has been partially proven for gas in Norfolk County south of Tillsonburg. In Dover Township, Kent County, it has three deep wells producing gas from the Trenton limestone; and has drilled 27 shallow wells, of which 26 are producers, on the Six Nations Indian Reserve near Brantford. The latter are small gassers.

KANSAS FIELDS

(Continued from Page 35)

wells in the eastern part of the State. These properties were left without a pipe line connection when the Prairie Oil & Gas Co. withdrew as a purchaser January 1, 1931. The commission estimated that the Prairie company was handling approximately 6,000 bbls. of oil a day.

Various companies made arrangements to purchase a part of the stripper oil and at present an outlet for 3,350 bbls. is provided for as follows: Stanolind Pipe Line Co., 2,000 bbls. a day; Sinclair Refining Co., 1,000 bbls.; Phillips Petroleum Co., 250 bbls., and Skelly Oil Co. 100 bbls. In order to balance the daily production with demand the shipments have been prorated approximately 57 per cent. The commission estimated that 2,500 bbls. of daily stripper production is unconnected at present.

The commission suggested that stripper production should be given first consideration, and that flush production in the new fields be curtailed until the stripper production is cared for. The commission also suggested that six pipe line companies for a 90-day period take stripper production as follows: Stanolind Pipe Line Co., 2,500 bbls. a day; Sinclair Refining Co., 1,250 bbls.; Phillips Petroleum Co., 500 bbls.; Skelly Oil Co., 250 bbls.; Empire Oil & Refining Co., 500 bbls., and Shell Petroleum Corp., 500 bbls.

Butler County

Blakesley & Wentz' No. 2 Holliday, SE cor. SW SW NE, Section 24-27-4, an old well deepened from 1,699 feet, is testing sand 2,017½-19 feet. Location has been made for No. 3 Holliday, SE cor. SW NE, Section 24-27-4. No. 4 Holliday is also a location, NW cor. SE, Section 24-27-4.

Cowley County

Roth & Faurot's No. 1 College, NW cor. SE, Section 22-32-4, Winfield Pool, is a rig going up. No. 1 Wilcoxon, Lot 3, Block 46, Musgrove Addition to city of Winfield, Section 22-32-4, has been deepened from 2,954 feet to Silicious lime 3,300-10 feet and completed for 200 bbls. No. 1 Moyer, SE cor., Lot 8, Block 45, Musgrove Addition to city of Winfield, Section 22-32-4, has been deepened from 2,307 feet to Silicious lime 3,290-98 feet and completed for 700 bbls. No. 1 Mattison, Lot 5, Block 44, Musgrove Addition to city of Winfield, Section 22-32-4, was deepened from 2,302 feet to Silicious lime 3,295-3,307 feet and made 600 bbls. Brewer and others' No. 1 Brewer, SE cor. NW NE, Section 2-33-5, has been abandoned at 615 feet.

Ellsworth County

Derby Oil Co. and Aladdin Oil Co.'s No. 1 Stoltenberg, SE cor. SW NW, Section 22-16-10w, topped Silicious lime at 3,347 feet, drilled to 3,365 feet and made 1,524 bbls. The well came in last November but has been shut in since that time.

Greenwood County

Harwood and others' No. 1 Carson, NW cor. NE, Section 33-23-11, is a rig under construction. Polhamus and others' No. 4 Johnson, NW cor. NE NE, Section 21-24-12, has been abandoned at 1,745 feet.

McPherson County

Ritz Oil & Gas Co. and Shell Petroleum Corp.'s No. 1 Neufeldt, SW cor. NW, Section 15-21-3w, is dry and abandoned at 3,440 feet.

Sedgwick County

National Refining Co.'s No. 2 Murdock, SE cor., Section 18-27-2, Eastborough Pool, has been completed for 60 bbls. in sand 3,237-42½ feet after being deepened from 2,960 feet.

Sumner County

Spencer and others' No. 1 Porter, NE cor. SW, Section 12-33-4w, is dry and abandoned at 4,515 feet.

CENTRAL WEST FIELDS

(Continued from Page 44)

on the J. F. McCormick farm, NW Section 1, Fall Creek Township, is a light gas well at a depth of 945 feet.

In Clay County, the Ohio Oil Co.'s No. 1 on the St. Louis Joint Stock Bank land, better known as the Hugh Stevenson farm, Section 26, Dick Johnson Township, is reported a dry hole. This well was drilled through the Trenton limestone to the top of the St. Peter sand at a total depth of 2,785 feet.

In Switzerland County, F. C. Bakes and others found a light gas well on the Joseph Kremmel farm, NW Section 17, Clark Township, at a shallow depth of 441 feet, and brought in another gas well with a reported volume of 1,500,000 feet on the Ira and David Wiseman farm, Section 16, same township. Same parties are drilling No. 1 H. W. Griffith farm, Section 8; No. 1 Lawrence Cooper farm, Section 18, and are also drilling No. 2 on the James Hankins farm, Section 8, where the discovery well was drilled.

In Gibson County, Washington Township, the Gib Van Oil Co. is drilling No. 2 Agnes Haskins farm, Section 18. It was on this farm that a 100-bbl. well was found last month.

In Pike County, Washington Township, Harry N. Bell and others are drilling No. 3 Craig heirs farm, NE Section 20, and Charles C. Taliaferro, Jr., is drilling No. 6 Aaron George farm, same township.

Brooks J. Johnston is drilling No. 1 on the Burkhart farm, in Taylor Township, Harrison County. Same party is drilling on the James A. Sharp farm, Section 30, Georgetown Township, Floyd County.

C. W. Reichard is starting a test on the Fred A. Cleveland farm, Section 30, Orangeville Township, Orange County.

KENTUCKY

Western Kentucky is in for a heavy play in the spring. Plans are under way to test large blocks of acreage along the Ohio River, in hope of finding fairly good gas wells at a shallow depth, as some of the completions in Carroll County, midway between Louisville and Cincinnati, have shown better than 1,000,000 feet and some fairly good gas wells have been found in Switzerland County, Indiana, just across the Ohio River from Carroll County.

In the Priceville area of northwestern Hart County, unknown parties found a dry hole in the Big Bottom area. In the same area an oil well was drilled on land known as the Maggie Finley farm, and a gas well on the E. E. Gibson farm, all being in the Priceville area. H. C. Smith Co.'s No. 1 on the Mrs. L. C. Johnson farm, and north of Munfordville, the county seat, is nearing the pay, and if it proves a commercial well, will open another large area for development.

In Daviess County, Cox and others' No. 3 on the Charles Bell farm, in the Cane Run Pool, is reported with an initial of 75 bbls., while in the Jones Pool, same county, Thrasher-Shouse & Brenner, found a dry hole on the Johnson farm, at a depth of 840 feet. Cox and others are drilling No. 2 Alsip farm, in the Cane Run Pool.

In Christian County, Baker, Hickman and others report a 3,000,000-foot gas well in a second test on the George Davis farm. Unknown parties are drilling No. 1 Amos Kester farm, No. 1 Pelch farm, No. 1 Frank Clark farm, and No. 1 on the Dr. M. E. Croft farm. This appears to be one of the leading gas counties in the western part of the state, although several other counties have had exceptionally good gas wells in the past and a large part of the gas territory is being taken care of by the Missouri-Kansas Pipe Line's subsidiaries.

In Ohio County, Chester Oil Co. is drilling No. 2 Mrs. D. McCarty farm, also No. 2 Sam McCarty farm, in the Friendship Pool. Doug Bolling is drilling No. 2 Frank Hanna farm, and Ellis, Carpenter and others are working at No. 2 on the Lucille Taylor farm, in the Adaburg Pool.

Owensboro Field

Drilling wells in the Owensboro Field of Daviess County, not reported completed, are the Mecca Oil Co.'s No. 4 J. C. and M. Alsip farm, Jones Pool; Harry Russell's No. 2 Widow Tanner farm, east of Whitesville; S. H. Russell and others' No. 1 J. W. Purcell farm, Colyer Pool; Roy Hogan's No. 1 Jones farm, in the Pleasant Ridge area; John Lyle's No. 2 Tom Riddle farm, in the Red Hill Pool, and Young & Hupp's No. 1 William Salmon farm, same pool.

Uncompleted wells practically due for completion in Hancock County, Pellville area, are Olean Petroleum Co.'s No. 1 Lee Richards farm; Henry K. Miller and others' No. 2 Jack Falls farm; Cumberland Petroleum Co.'s No. 1 Mickel farm, north of Chambers; Ellis, Claypool and others' No. 1 Hubbard farm, northeast of Lewisport; Doug Bollin's No. 1 Doctor Burke farm; same parties' No. 1 Jackson farm, and Ira Huff's No. 2 Buck Parrett farm; Hupp, Duff and others' No. 4 Elec Jackson farm, and Hardly Able Oil Co.'s No. 2 on the Della Lain 65 acres.

With better weather conditions there will be a heavy play in the Calhoun Field, in McLean County, especially in the Barrett Hill Pool, where some producers above the average were developed in the past few weeks.

The shipping of oil from the Logsdon Valley Field, in Hart County, Kentucky, has been placed on a prorated basis and about 1,000 bbls. are loaded each day. The Green River Pipe Line Co. which takes the crude, is paying 88 cents a barrel at the wells.

The Legrande Field, also in Hart County, has been placed on a proration basis and is piping out about 500 bbls. per day. The oil is being purchased by the Stoll Refining Co. of Louisville and run through the Stoll pipe line from the Legrande Field to its plant in Louisville.

A banquet was held recently by the stockholders of the Munfordsville Gas & Oil Co. Among those present were C. B. Larimore, H. F. Mansfield, J. Harvey Snider, John H. Jefferson, Charles E. Jefferson, Home Simmons and W. E. Payton.

MICHIGAN FIELDS

(Continued from Page 43)

duction in the Isabella-Midland Field, Mr. Claggett said it had become necessary to protect the company's leases in going ahead with the new test. Three fields have been explored up to the present time in Michigan on a large scale, at Saginaw, Muskegon and Mount Pleasant.

There is no way to gauge the possibilities of the tests to be conducted in the Ogemaw area, according to Pure Oil Co. officials. Geological tests have indicated oil-bearing structures in that vicinity. Their scope and amount of supply can be determined only by tests.

Muskegon

Operators in the Muskegon Field are making efforts to bring back production of oil or gas in some of the old wells. The declining gas flow of a well which originally was brought in as the largest Dundee formation gas well in the Muskegon Field was more than doubled by deepening the Joliet-Morris Development Co.'s No. 3 on the John B. Nichols lease, Section 2, Muskegon Township. Originally it came in with an open flow capacity of 23,000,000 feet a day. Recently after it had been producing at the rate of 75,000 feet a day for some time it quit flowing. A rig was moved in and after deepening several feet below the original depth of 2,029 feet it started flowing again at the rate of 225,000 feet a day. At this rate it is the largest gas producer in the field at this time.

A rig has also been moved in to deepen the United Gas & Oil Co.'s No. 2 John D. Cooper on the north edge of the river flats which originally was a 125-bbl. oil producer in the Dundee formation at a depth of 2,020 feet.

The latest Muskegon County wildcat has been completed as a duster, and one new oil producer has been added to the old field. The dry hole is H. C. Nelson's No. 1 Arthur Runsell, in Section 11, White River Township, north of several other similar tests. It was dry at a total depth of about 1,750 feet after

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having tested the Berea sand and Upper Traverse formations without success. The Blue Arrow Petroleum Co.'s No. 2 Torrent struck oil in the Dundee pay sand from 2,008-11 feet. The hole filled up several hundred feet in a short time and is estimated at 50 to 100 bbls. This well is on the Muskegon River flats in Section 8, Muskegon Township. The Muskegon Oil Corp. has set a rig to deepen its No. 2 Torrent Estate well, a former Dundee oil producer, a short distance northwest of the Blue Arrow well.

Clare County Gas Field

The best gas field yet opened up in Michigan is centered in Clare County, approximately 9 miles northwest of the city of Clare, known as the McKay-Mercier Field. Six gas wells have been completed in Clare County, with a total capacity of 30,644,000 feet. None of the gas has been placed on the market, although representatives of several pipe line companies have been bidding on the supply. Two of the wells are on the James S. Bicknell farm, NW SE NW, Section 6, Hatton Township, Clare County, and were drilled by John A. Mercier of Detroit. One has 6,988,000 feet from the Traverse formation and No. 2 Bicknell farm, drilled by James McKay of Detroit, showed 13,543,000 feet. The Peninsula Oil Co.'s No. 1 on leased land from the Citizens State Bank of Clare, known as No. 1 Baird, has 1,934,000 feet while No. 2 Baird showed 1,324,000 feet. No. 1 McKay showed 5,100,000 feet and No. 4 McKay had 1,755,000 feet.

Only one well that has been drilled in this field has failed to be a producer, and in this well there was a showing of gas in the Traverse at the 1,400-foot level, but the owners drilled down into the Dundee formation in search of oil and got a dry hole.

No oil has been located in the Clare Field, but gas operations are going forward with two wells drilling. Test wells for oil have been drilled far to the south and west of this gas field, but dry holes have resulted. The gas field thus far developed is in Grant, Hatton and Surry Townships.

The Oil and Gas Producers Association of Michigan held its regular January meeting in Mount Pleasant, when general problems and plans to aid in the field's development were discussed by 25 members. The association went on record as favoring a tariff on oil. The association is prepared to provide experts on the central Michigan gas fields to confer with the Saginaw gas rate arbitration committee.

ROCKY MOUNTAIN AREA

(Continued from Page 39)

5,200 feet in salt. This well is considered of outstanding importance by the company as it is designed as a test of the formations below the salt beds in the salt basin of eastern Utah. It has been in salt most of the time from 900 feet down to the present bottom. At 3,432 feet a 4-foot sand was encountered from which 300 bbls. of normal paraffin base oil was bailed showing a productivity of 15 bbls. per day. Casing was set at 3,452 feet, shutting off 1,900 feet of oil standing in the hole. The thickness of the salt beds can not be estimated closely, but geologists conclude that below them lie pre-Pennsylvanian formations in excess of 1,000 feet in thickness. The Salt Valley structure is prominent in area, closure, concentration and location as to transportation and the horizons to be penetrated are believed to have major production possibilities. The company has 17,000 acres in the block. Utah has a market for crude oil which is quite attractive on account of the absence of a competitive supply.

Escalante Explorations, Inc.'s No. 2 Escalante, Section 19-43-15, Bloomington Dome, Washington County, which was reported two weeks ago to have encountered a saturated sand at an undisclosed depth, is reported to have run casing to the top of the sand and is waiting for cement to set.

Virgin Dome Oil Co.'s No. 1, NW NW Section 16-42-14, Harrisburg Dome, also is reported to have penetrated a saturated sand at 3,000 feet and to be trying for a water shutoff.

Arrowhead Petroleum Corp.'s No. 1, SE SW NE Section 1-43-15, Punchbowl district, is shut down at 1,560 feet waiting for completion of a test it is drilling in Arizona on the Antelope Dome. The objective in this well is the upper Pennsylvanian at 3,200 to 3,600 feet.

Pipe Line Runs

Average daily pipe line runs for the week ended January 16:

WYOMING

	Bbls.
Salt Creek	21,300
Badger Basin	50
Big Muddy	1,670
Byron	380
Greybull	10
Dallas-Derby	630
Dutton Creek	50
Elk Basin	690
Ferris	20
Grass Creek	2,020
Hamilton Dome	850
Hudson	440
LaBarge	1,170
Lance Creek	90
Lost Soldier	2,560
Midway	100
Osage	670
Pilot Butte	40
Rock River	1,720
Poison Spider	60
Total Wyoming	34,520

MONTANA

Buckley-Border	460
Cat Creek	910
Dry Creek	10
Kevin-Sunburst	3,360
Lake Basin	60
Pondera	960
Total Montana	5,760

COLORADO

Florence	330
Fort Collins	900
Iles	730
Moffat	730
Orchard	550
Rangely	20
Tow Creek	290
Total Colorado	3,550

NEW MEXICO

Rattlesnake	800
Hogback	410
Table Mesa	60
Artesia	450
Cap Rock	700
Hobbs	32,267
Jal	900
Lea City	1,800
Eunice	436
Texas Pacific	129
Total New Mexico	37,952
Total Rocky Mountain area	81,782
Total previous week	84,804
Difference	3,022

PROPER SELECTION OF OIL FIELD BELTS

(Continued from Page 32)

belt speed is 2Pi×143, or 900 F.P.M. Using 20 pounds per inch per ply, or 140 pounds per inch width, for T_1, the value of 2_3 is $140/e^{.37\pi}$, or 56.3 pounds per inch width. The effective pull is 140—56.3, or 83.7 pounds per inch width. The horsepower transmitted is 83.7×900/33,000=2.28 per inch width. The belt would have to be 40/2.28, or 18 inches wide, in order to transmit 40 horsepower at 900 F.P.M., with slip impending. No allowance has been made for centrifugal tension and uneven torque, nor has consideration been given the fact that belt fastenings have only from 50 to 60 per cent the strength of the belt.[3] Obviously, a higher unit tight-side tension, or a wider belt, would have to be used in order to transmit 40 horsepower under the conditions given with a fastened belt. A higher unit tight-side tension can be obtained by using an 8-ply belt, or by using a 7-ply belt, made of 36-ounce duck or silver hard duck. The former gives an allowable unit tight-side tension of 160 pounds, and the latter 23 pounds per inch per ply permissible tension, or 161 pounds. Either of these belts gives an effective pull of 95.7 pounds per inch width, under the assumed conditions, and has a horsepower capacity of 2.61 per inch width, or 47 horsepower at 900 F.P.M. Aside from the weakness at the fastening, either an 18-foot, 8-ply, 32-ounce duck belt, an 18-inch, 7-ply silver hard duck belt, or an 18-foot, 7-ply, 36-ounce duck belt would be satisfactory for the conditions assumed, although the 7-ply belts should give better service than the 8-ply belt.

An endless belt drive,[4] so arranged as to give by means of a contacting pulley, an arc of contact of 180° or more on the small pulley, would deliver 40 horsepower with a belt speed of 900 F.P.M., and a unit tension of 140 pounds, with belt widths and coefficients of friction, as follows:

TABLE 3

Coefficient of friction..	0.30	0.40	0.50
Indicated width*	17.2"	14.6"	13.2"
Nearest inch width	17"	15"	13"

If the unit tension were increased to 160 pounds, the required belt widths would be:

TABLE 4

Coefficient of friction ..	0.30	0.40	0.50
Indicated width*	25.0"	21.3"	19.2"
Nearest inch width	25"	21"	19"

Tables 3 and 4 show the importance of selecting the type of belt best suited to the job. In this respect, the importance of the coefficient of friction cannot be overstressed.

The foregoing calculations were made in reverse order so that the various considerations might be more easily grasped. Calculation for belt size should start from the horsepower, and should be worked to ply or thickness and width.

Countershaft to Bandwheel Belt

The arc of contact on the countershaft driving pulley is 180°—2(antitan 55.5/420), or 165°. The belt speed of 900 F.P.M. on the engine to countershaft gives a belt speed of 33/42×900=619 F.P.M., for the countershaft to bandwheel belt. In order to transmit 40 horsepower at 619 F.P.M., a 24-inch, 7-ply belt with a coefficient of friction of 0.30 and a unit tight-side tension of 23 pounds is needed as follows:

Effective pull=40×33,000/619=2,132.5 pounds.

$T_1/T_2=e^{f\alpha}=2.37$

$M=1/e^{f\alpha}-1=0.73$

$T_2=MP=1,556.7$

$T_1=1,556.7+2,132.5=3,689.2$

$3,689.2/160=23.1"$

If an endless belt were used for this drive with a contacting pulley allowing 180° arc of contact, or more, on the driving pulley, the belt widths required for 140 pounds unit tight-side tension and frictional coefficients of 0.3, 0.4 and 0.5 are as follows:

TABLE 5

Coefficient of friction ..	0.30	0.40	0.50
Indicated width*	25.0"	21.3"	19.2"
Nearest inch width	25"	21"	19"

A unit tight-side tension of 160 pounds would require the following widths:

TABLE 6

Coefficient of friction ..	0.30	0.40	0.50
Indicated width*	21.8"	18.6"	17.0"
Nearest inch width	22"	19"	17"

Conclusion

A few indicator cards taken on pumping engines under the different loads necessary in pumping and repairing wells will allow fairly close estimates to be made of the horsepower that belts have to transmit at various belt speeds. It should be an easy matter both to show the inadequacy of many belts in use, and to calculate the proper pulley and belt sizes to give more efficient and economical performance. More attention to this phase of operations should materially reduce belting costs, as well as reduce engine and rig repair.

[3]Tests conducted by the American Petroleum Institute show belt fastenings to have from 50 to 60 per cent the tensile strength of the belt.

[4]It is reasonable to assume that the use of wide belts with fastenings will not result in satisfactory service, because the efficiency of oil field belt fastenings, which are at best inefficient, decreases rapidly with width. Endless belts have had sufficient use to prove their worth. Hence, the calculations for endless belts.

*No allowance made for centrifugal tension, overload, etc.

*No allowance made for centrifugal tension, overload, etc.

*No allowance made for centrifugal tension, overload, etc.

*No allowance made for centrifugal tension, etc.

FORT WORTH GEOLOGISTS

At the recent annual meeting of the Fort Worth Geological Society the following officers were elected: President, Paul L. Applin; vice president, Walter R. Berger, and secretary-treasurer, R. H. Fash.

DIESEL ENGINE DESIGN NEEDED FOR OPERATIONS

(Continued from Page 32)

ciety of Mechanical Engineers for January-April period of 1928, there is an article of much interest on Diesel engines for locomotives, and of experiments upon combustion chambers for high speed engines of this type.

In that article Mr. Kemper suggests that 1,800 r.p.m. and a weight of 3 pounds per horsepower must be attained in designing the engine for aviation service. He refers to 300 to 600 r.p.m. and 25 pounds per horsepower as being the light engine as developed up to that time. In the consideration of the weight of the oil field engine, it will be advisable to make use of aluminum alloy castings for crankcases and pistons, as it would seem necessary to keep under the allowable maximum weight of 40 pounds per horsepower. At 40 pounds per hoursepower an engine of 240 horsepower weighs 9,600 pounds, which is a good load, but one that can be hauled about the fields, as changes in location become necessary.

Speeds

There are great differences in speeds of engines being manufactured. The heavier engines run at speeds from 150 to 350 r.p.m. and the high speed engines are designed for speeds ranging from 400 to 100 r.p.m.

There are three speeds which might be considered, namely 750, 900, and 1,200. These speeds correspond with the synchronous speeds of electric motors, and since we desire a high speed engine to keep down the weight, it might also be an advantage to consider motor and generator speeds; 1,200 is rather high for present day Diesel engines, but there are some makes running at 900 r.p.m. One that could also give satisfactory service at half this speed, would probably be the one to consider.

Fuel Required

The fuel generally used in Diesel engines is crude petroleum, distillates, and fuel oils. By preheating the fuel oil, it can be used quite successfully when the gravity is as low as 14° A.P.I. The prime requisites of the fuel oils are that they are liquid enough to flow and to permit of atmoization, and that they contain no water or other matter that will clog up the small spray ports of the injection nozzle.

A conservative estimate of the amount of fuel for each brake horsepower per hour required by the engine when operating at from 50 to 75 per cent full load, is one-half pound of crude oil.

Estimating that a gallon of fuel oil weighs 7.8 pounds, or a barrel weighs 327½ pounds, and, that the average load imposed upon a 50 horsepower engine is 75 per cent, then 1 bbl. of 42 gallons of fuel oil will be used 17½ hours.

Lubrication

It has been said that fuel consumption of a Diesel engine is low, but the lubricant consumption is quite high. The amount of lubricating oil required depends entirely upon what kind of lubricating system is employed. The system which should be employed is one which feeds oil directly to all bearings, and which recycles the oil through a filter and a cooling coil. With such a system there should be a minimum consumption of lubricant.

Maintenance and Operation

It is generally agreed that it is necessary to have a man who has been experienced in handling internal combustion engines to handle and look after a Diesel engine, but any good engine man should readily gather the necessary understanding of the engine. If the engine is not overloaded, and carefully built of rugged design it should not require excessive repairs. Most all the trouble laid to Diesel engines can be traced to cases where the engine selected was too small for the load. Like the gas engine it will not stand an overload.

General Conditions to Be Met

In order to meet conditions of the field a multicylinder vertical high speed engine will be required. One of rugged design with standard cylinder sizes and

standard interchangeable parts. It should be the purpose to so design the engine that by increasing or decreasing the number of cylinders the various sized units necessary to cover the whole field of power requirements may be met. For example a single cylinder engine for pumping a shallow, or an average sized well and increase the number of cylinders up to six for use in rotary drilling. In case it is desirable to increase the power above that of a six-cylinder unit it will be available to connect electric generators to two or more units and to operate them in synchronism. The power so generated can be used through electric motors.

Advantages

The advantages which should favor the use of this engine are as follows:

1. No magneto, nor ignition system is required. This eliminates the hazard of setting fire, reduces the chances of trouble in starting the engine, and insures quick action since a Diesel engine can be started with compressed air and attain full speed in a few seconds.

2. Fuel required may be easily obtained by using crude petroleum produced in the field, the only requirement being that the fuel be clean and free from water. The amount of fuel is very small since a horsepower hour of service can be developed while consuming one-half pound or less of fuel oil.

3. Water required for cooling jackets is low, as it is about the same as required by the gas engine and much less than required by the steam engine. This makes the engine desirable for drilling or general use in semiarid regions and where water is scarce.

4. The engine can readily be converted into a gas engine by changing cylinder heads and a rearrangement of fuel mixing valves.

5. A centrally located Diesel electric plant, where gas is not available, and where fuel and water are scarce, may be economical for general power purposes, both in development of a new field and operation after the field has been developed.

ENGINEERS DISCUSS OIL FIELD PROBLEMS

(Continued from Page 24)

around the application of the data secured by time studies of operations and the desirability of making the electric motors larger to permit more hoisting speed. Manufacturers expressed their willingness to make motors of any size demanded by the trade, but cautioned against increasing the sizes unnecessarily because they pointed out that the increased investment would not be justified by a corresponding increase in drilling speed. Motors now available have ample power to pull in the rig or pull the drill pipe in two, and this leaves only one other reason for increase in size, that of increasing the speed with which the pipe can be pulled out of the hole.

There is a limit in that direction imposed by the ability of a drilling crew to maintain a high rate of speed in breaking joints and handling pipe and beyond the safe speed for those operations there is little to be gained in actual efficiency by placing more power at the driller's command. It was pointed out that in some instances it had been found that the power available was not being fully utilized because of improper gear ratios between motor and drawworks and it was suggested that some study could be devoted to this phase of the problem.

It was generally agreed that this study of the A.S.M.E. subcommittee was valuable to both drilling contractor and company engineer and the best thing to do was to apply the knowledge gained in the most economical manner, giving the driller ample power for all needs that may arise while drilling the hole, but at the same time point out where some savings may be effected by a better distribution of drilling operations which will result in more time on bottom, which in the final analysis is the object aimed at by all interested.

Unfired Pressure Vessels

G. Raymond, engineer for Black, Sivalls & Bryson, Inc., Tulsa, gave a most interesting discourse on the subject of unfired pressure vessels and explained the development of the art of welding as applied to tanks and high pressure vessels used in the oil industry. The A.S.M.E. code permits the use of welding for practically any size vessel and any thickness of metal desired. One unit, said to be the largest welded vessel made for the refining industry to date was mentioned by Mr. Raymond and consists of a pressure vessel with bubble tower that weighs in excess of 325 tons and is made from metal that gives wall thicknesses of from 3½ to 7½ inches. Picture and description of the unit will be found on page 89 of the October 29 issue of The Oil and Gas Journal.

Mr. Raymond outlined the progress made in protecting the welding arc from atmospheric oxygen and nitrogen and stated that at this time there are approximately 15 companies in this country who use special methods of welding that insure as great or greater strength in the weld than in the original metal.

The undesirable feature set up by the older type of welding in the presence of air when iron oxides were formed that made the weld brittle and dangerous under high temperatures and pressures have been entirely eliminated by the newer methods of welding and because of this decided advancement in the art there is no limit placed upon the use of welds for forming high pressure vessels.

The A.S.M.E. code gives certain requirements that must be met in all types of welded vessels but there does not seem to be any trouble experienced by the manufacturers in meeting them, in fact, many manufacturers are building their equipment under specifications that are even more rigid than the code's requirements.

Another advance made in the art of welding by the new method has been found in the resistance of welded joints to corrosion. Lacking iron oxide and iron nitride the weld is no longer subject to rapid deterioration due to the attack of hydrogen sulphide or other corrosive agencies, and this is proving of great value to operators handling corrosive crude oils and gas.

Caustic embrittlement has also been reduced because of the fact that vessels with smooth interior surfaces are now being made, and without places to deposit and accumulate this type of attack on metal is reduced.

Sucker Rod Joints

David Trax read a paper prepared by Emory Kemler, Gulf Research Laboratory, Pittsburgh, Pa., on "Stress in Sucker Rod Joints" that was an abstract from a very complete report on this subject.

The study has shown that failure in sucker rods is the greatest cause of down time on pumping wells and that the failures occur mostly at the joints and for this reason the study has been concentrated upon conditions there.

A new type of joint was suggested but in the discussion that followed it seemed to be the opinion of the members present that this change is not necessary, if proper care is exercised in making up the strings.

The report stated that the maximum stress set up in a pin should not exceed 4,500 inch pounds. It was stated that in tests conducted in Tulsa it was found that a man weighing 220 pounds with two 36-inch wrenches could not exert a force that would set up over 3,000 inch pounds. This test was made by using the wrenches in the usual manner for tightening joints, that is snapping the two wrenches together; also by blocking one wrench and the man then exerting his full strength on the other. In neither case did the stress set up within the joint exceed 3,000 inch pounds.

It was further stated by many of the men present that pin breaks can be reduced if the joints are made up very tight, and if the stress in the pin is greater than the stress set up by the load these two forces will not act upon the pin in an accumulative manner, but the greater stress will be the only one effective.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 28)

Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 3, Blk. 1, B.B.&S.F. Sur. ..... Location.
Quicksand Oil Co.'s No. 1 Chapman, 250 ft. from N and E, Sec. 69, Blk. 25, H.&G.N. Sur. ..... S.D. 2,692 ft; flowed 100 bbls. in 5 hrs.
Vulcan Corp.'s No. 1 Carpenter, 330 ft. from S and E, Sec. 25, Blk. 25, H.&G.N. Sur. ..... S.D. 3,002 ft.

HUTCHINSON COUNTY

Baso's No. 1 Moore, 330 ft. from S and 330 ft. from E, in 80 ac. in NW, Sec. 21, Blk. M-21, T.C.R.R. Sur. .. Rig.
Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. ..... Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. .. S.D. 450 ft.
Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. ..... T.D. 3,116 ft; to plug back.
Smith & McDaniel et al's No. 4 Pitcher, 990 ft. from S and 330 ft. from W, Sec. 19, Blk. M-21, Sur. .... T.D. 3,138 ft.; top pay 3,050 ft; 233 bbls. in 15 hours.
Harry Stekoll's No. 1 Whittenburg, 1,650 ft. from N, 330 ft. from E, Sec. 89, Blk. Z, G.C.&S.F. Sur. ..... Cellar.
Timms-Deatch's No. 4 Moore, 330 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

MOORE COUNTY

Dogie Oil Co.'s No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur. ..... Rigging up rotary.
Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. ..... Rig up.
Magnolia Pet. Co.'s No. 1 Nield, 330 ft. from S and E of N½, Sec. 361, Blk. 44, H.&T.C. Sur. ..... S.D. 1,650 ft.
Pollard et al's No. 1 Hall, 330 ft. S and E, NE, Sec. 131, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Texas Interstate P. L. Co.'s No. 1-23 Thompson, C N½ NE, Sec. 23, Blk. 44, H.&T.C. Sur. ..... Location.
Texas Interstate P. L. Co.'s No. 1-37 Sneed, C NW, Sec. 37, Blk. 6-T, T.&N.O. Sur. ..... Location.
Texhoma Nat. Gas Co.'s No. 2-P Sneed, 265 ft. E and 3,685 ft. of SW cor. of M. George Sur. but in Sec. 77, Blk. 3, G.&M. Sur. ..... Standardizing 2,190 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ..... S.D. 3,150 ft. (corrected depth).

PARMER COUNTY

Magnolia Pet. Co.'s No. 1 Wilson, 330 ft. from N and W, SE, Sec. 73, H. Kelly Sur. ..... S.D. 2,785 ft.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... Drlg. 2,680 ft.
Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-2, H.&G.N. Sur. ..... S.D. 2,690 ft.

WHEELER COUNTY

Clarity et al's No. 1 Porter, 330 ft. S and W, SE, Sec. 3, Blk. A-3, H.&G.N. Sur. ..... S.D. 2,235 ft.
Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E of E½ of Sec. 33, Blk. 24, H.&G.N. Sur. ..... Estimated 80,000,000 ft. gas; T.D 2,263 ft; drlg. plug.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 28)

GARZA COUNTY

Penny & Posey's No. 1 Justice, 1,980 ft. from S and 1,680 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... Fishing for 6⅝-in. csg.; T D 3,320 ft.

HOWARD COUNTY

Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W Sec. 14, Blk. 20, Twp. 1s, T.&P. Sur. . Spudded and S.D.
L. C. Harrison et al's No. 1 L. C. Denman, 2,310 ft. from S line and 330 ft. from E line of Sec. 10, T.&P.R.R. Sur., Blk. 30 ..... Standing cemented 2,400 ft.

IRION COUNTY

Davis et al's No. 1 Suggs, 1,560 ft. from S and 925 ft. from W Sec. 3,081, Blk. 28, H.&T.C. Sur. ..... Fishing 5,627 ft.
Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. ..... T.D. 6,795 ft.; circulating mud.
Straughn & Adkins Bros.' No. 1 Lee, 1,080 ft. from W and 420 ft. from N of Sec. 729, C. Kaiser Sur. ..... Drlg. 1,350 ft.

JONES COUNTY

Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur. ..... Rig up.
Young et al's No. 1 Harrell, 150 ft. from S and E of N half of Sec. 8, O.A.L. Sur. ..... Location.
Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-acre tract in G. Martinez Sur. ..... S.D. 1,005 ft.; temporarily abd.

LOVING COUNTY

Adams et al's No. 1 Wheat, 330 ft. from SE and SW of Sec. 89, Blk. 1, W.&N.W. Sur. ..... Drlg. 850 ft.
Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S Sec. 46, Blk. 53, T.&P. Sur. ..... S.D. 810 ft.
Slack's No. 1 Lynd, 990 ft. NE and 330 ft. SE of Sec. 3, Blk. 2, W.&N.W. Sur. ..... S.D. 4,044 ft.; preparing to run 6⅝-in. casing.
Falbre & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW Sec. 79, Blk. 33, H.&T.C. Sur. ..... S.D. 2,500 ft.
Lewis & Slagel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W Sec. 6, Blk. 56, Twp. 1, T.&P. Sur. .. S.D. 250 ft.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... S.D. 3,385 ft.
Phillips Pet. Co.'s No. 3 Wheat, 330 ft. from SW and 2,310 ft. from SE Sec. 85, Blk. 1, W.&N.W. Sur. ..... Spudding.
Tennant et al's No. 1 Martin, 990 ft. from NW and SW Sec. 66, Blk. 1, W.&N.W. Sur. ..... Drlg. 4,015 ft.

MENARD COUNTY

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor. Sec. 132, E.L.R.R. Sur. ..... S.D. 2,860 ft.

PECOS COUNTY

Anderson's No. 1 Le Fever, 330 ft. from N and W of Sec. 78, Blk. 8, H.&G.N. Sur. ..... S.D. 1,665 ft.
Cardinal Oil Co.'s No. 1 J. H. Tippett ("J"), 1,980 ft. from the S line and 990 ft. from the W line of Sec. 2, D. F. Robertson Sur. ..... Plugged back to 600 ft.
Culberson Bros.' No. 2-A Monroe, 575 ft. from N and 150 ft. from E Sec. 39, Blk. 194, G.C.&S.F. Sur. ..... Location.
Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur. ..... Drlg. 1,010 ft.
Slaughter et al's No. 1 Sun Yates, 60 ft. S of Sun Oil Co.'s No. 1 Yates, Sec. 59, Blk. 1, I.&G.N. Sur. ..... Material.

REAGAN COUNTY

Big Lake Oil Co.'s No. 6-C University, 1,370 ft. from S and 1,000 ft. from E Sec. 12, Blk. 2 ..... T.D. 4,810 ft.; drlg. plug 2,420 ft.

REEVES COUNTY

Cunningham et al's No. 1 Wright, 1,320 ft. from S and W Sec. 58, Cassel's Sur. ..... S.D. 75 ft.
F. McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur.... S.D. 105 ft.
James & Milton's No. 1 Patterson, 330 ft. from N and W of Sec. 21, Blk. 72 ..... S.D. 3,320 ft.; to set 6⅝-in. csg.
Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur.... S.D. 5,044 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... S.O. 3,427-20 ft.; S.D. 3,600 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... Trying to land 6-in. csg.; T.D. 4,522 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Drlg. 5,465 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... S.D. 5,041 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and S.D.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... S.D. 3,740 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M-K-T Sur. ..... S.D. 2,269 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... S.D. 3,150 ft.
Miller Bros.' No. 1 Allison & Burke, C NW Sec. 10, Blk. 176, T.&P. Sur. ..... S.D. 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S Sec. 26, Blk. 161, G.C.&S.F. Sur.. S.D. 6,120 ft.
Jones et al's No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... S.D. 2,545 ft.
Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,482 ft. from W Sec. 5, G. W. Hurley Sur. ..... S.D. 480 ft.

TOM GREEN COUNTY

Andrews' No. 1 Pugh, 250 ft. from N and 5,184 ft. from E, James Eldridge Sur. No. 73 ..... S.D. 453 ft.
Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... S.D. 760 ft.; S.O. and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur. ... S.D. 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... S.D. 200 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... S.D. 5,360 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 1 Sloan, 330 ft. from NW and NE Sec. 24, Blk. 5, H.&T.C. Sur. ..... Drlg. 2,040 ft.
Alpine Oil & Dev. Co.'s No. 4 J. F. Hoogher, 150 ft. from SE line and 150 ft. from the SW line of Tract 16, Sec. 11, Blk. 5, H.&T.C. Sur. ..... T.P. 2,338 ft.; I.P. 40 bbls. day.
Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,210 ft.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW Sec. 12, Blk. 5, H.&T.C. Sur. ..... S.D. 380 ft.; corected depth.
Gulf Prod. Co.'s No. 9 Hutchings, 330 ft. from N and 1,650 ft. from W of S 370 acres of Sec. 5, Blk. F, G.M.M.B.&A. Sur. ..... Flowed 125 bbls. in 24 hrs.; drlg. 2,660 ft.
Gulf Prod. Co.'s No. 20 O'Brien, 1,870 ft. from N and 330 ft. from E Sec. 16, Blk. F, G.M.M.B.&A. Sur.... Drlg. 1,940 ft.
Moran & Burkhart's No. 2 J. T. Sweatt et al, 3,810 ft. from the NE line and 1,170 ft. from the NW line of Sec. 12, Blk. 5, H.&T.C. Sur. ..... S.D. 821 ft.
Moran & Miles' No. 1 Boogher, 3,603 ft. from NE and 1,303 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... S.D. 820 ft.
R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,532 ft. from SW Sec. 1, J. Howe Sur. ..... S.D. 560 ft.
Prairie Oil & Gas Co.'s No. 2 Edmonson, 330 ft. from NW and SW of Sec. 23, Blk. 5, H.&T.C. Sur. ..... Running 6⅝-in. csg. 2,351 ft.
Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 22, Blk. A, G.M.M.B.&A. Sur. ..... S.D. 3,602 ft.
Sudderth & Carey's No. 1 J. H. Boogher et al, 150 ft. from SW and SE lines of Lot 24, Sec. 11, Blk. 5, H.&T.C. Sur. ..... S.D. 290 ft.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... T.D. 4,666 ft.; flowed 86 bbls. in 56 hrs.
Stanolind Oil & Gas Co.'s No. 1 Cannon, 3,300 ft. from SE and 1,649 ft. from NE Sec. 29, Blk. B-29 ..... Cellar.
Stanolind Oil & Gas Co.'s No. 1 Weiss, 300 ft. from NW, 300 ft. from NE of S 100 acres, Sec. 4, Blk. 34 ..... Drlg. 1,200 ft.; top salt 1,035 ft.
White et al's No. 1 Burtner, 150 ft. from NE and 515 ft. from SE of Sec. 8, Blk. 32, H.&T.C. Sur. ..... S.D. 755 ft.

WINKLER COUNTY

Liner Drlg. Co.'s No. 1 Campbell, 350 ft. from N and E cor. Sec. 2, Blk. B-5 ..... S.D. 4,64 ft.
Richardson's No. 1 Sealy, 330 ft. from S and W of Sec. 92, Blk. A, G.M.M.B.&A. Sur. ..... Drlg. 1,445 ft.
Sid Richardson's No. 1 S. M. Halley, 330 ft. from the S line and 1,650 ft. from the E line, Sec. 25, School Blk. B-12 ..... Drlg. 950 ft.

EAST CENTRAL TEXAS WILDCATS

(Continued from Page 25)

J. B. Bone et al's No. 1 R. P. Johnson, 330 ft. from N line and center of E and W lines of lease, D. Sanches Sur. ..... Spudded.
Brown et al's No. 1 Florence, 150 ft. from N and W lines of 2.58-ac. tract, Mary Van Winkle Sur. ..... Derrick.
Buchanan et al's No. 1 Geo. Ritchie, 120 ft. N and 15 ft. W of Monsell and Currie's No. 1 Church, Blk. No. 4, M. Dillard Sur. ..... Derrick.
Bob et al's No. 1 T. L. Broy, 290 ft. from E and 1,640 ft. from S of H. A. Holdt Sur. ..... Derrick.
M. T. Beeler's No. 1 Finley and Thomas, 150 ft. from N and 150 ft. from W of 10-ac. lease, C. H. Alexander Sur. ..... Derrick.
Bridwell and Fikes' No. 1 D. Lockett, 284 ft. E. 326 ft. N of SW cor. of 25-ac. lease, D. Ferguson Sur. .. Drlg. 2,940 ft.
Byrd-Frost Oil Co.'s No. 1 Alexander and Strong, 330 ft. from S and E lines of 26-ac. tract, M. Tennison Sur. ..... Derrick.
Central Com. Oil Co.'s No. 1 A. A. King, 233 ft. from S and 330 ft. E of NW cor. of 133-ac. lease, M. Tennison Sur. ..... Derrick.
Danciger Oil & Ref. Co.'s No. 1 S. Ball, located on a 2-ac. tract, Mary Van Winkle Sur. ..... Derrick.
W. L. Duninger's No. 1 C. C. Stoen, 350 ft. from S and E lines of 59-ac. tract, J. Baty Sur. ..... Derrick.
Empire Gas & Fuel Oil Co.'s No. 1 V. L. Taylor, 330 ft. from N line and 352 ft. from W line of 40.85-ac. lease, M. Tennison Sur. ..... Derrick.
Fither et al's No. 1 F. Thomas, 160 ft. from S line and 150 ft. from W line of 10-ac. lease, C. H. Alexander Sur. ..... Rig up.
Glasscock Bros.' No. 1 E. Bade, 157 ft. from S line and 409 ft. from W line of lease, G. W. Hooper Sur. ..... Derrick.
Lewis Godlin's No. 1 E. L. Walker, 330 ft. N of road, 330 ft. from E line of 80.2-ac. tr., M. Dillard Sur.. Derrick.
Hankamer and Lee's No. 1 T. W. Lee, 150 ft. from S line and 238 ft. from E line of lease, L. J. Risby Sur. ..... Location.
Jerry Hawkins' No. 1 Shilo Church, center 3-ac. tr., G. W. Hooper Sur. ..... Drlg. 2,842 ft.
Humble O. & R. Co.'s No. 1 H. M. Lawrence, 540 ft. from N and 219 ft. from W of 100-ac. tr., David Ferguson Sur. ..... Drlg. 3,610 ft.
D. L. Hoffman's No. 1 B. F. Phillips, 330 ft. from E line and center of N and S lines of 16.5-ac. tract, D. Ferguson Sur. ..... Derrick.
Jackson and Bradstreet's No. 1 M. Young, center 2-ac. tr., J. R. Crosby Sur. ..... S.D. 200 ft.
B. K. Isaac's No. 1 J. A. Tuttle, center of 4.5-ac. tr., H. Hathaway Sur. ..... T.D. 3,530 ft.; waiting on cmt. to set.
Kroll's No. 1 J. Spear, center ¾-ac. lease, Blk. 4, Mary Van Winkle Sur. ..... Rigging up.
K. B. Oil Co.'s No. 1 Dickson, 150 ft. from S and 150 ft. from W of 5-ac. lease, Mary Van Winkle Sur. .. S.D. 700 ft.
Louisiana Oil & Ref. Co.'s No. 1 W. C. Griffin, 272 ft. from S line, 330 ft. from E line of 79-ac. tr., L. B. Outlaw Sur. ..... Drlg. 3,551 ft.
Magnolia Pet. Co.'s No. 1 Redford, 330 ft. from N and W lines of 75-ac. tr., John Blair Sur. ..... Drlg. 3,662 ft.
McBride's No. 1 F. Elder, 205 ft. N and 320 ft. W of SE cor. of 2½-ac. lease, John Wilkerson Sur. ..... Derrick.
Natalie Kimsey's No. 1 C. C. Crewa, 330 ft. from N line and center of E and W lines of 60-ac. tr., L. Perkins Sur. ..... Derrick.
Patrick Pet. Co.'s No. 1 Watson, 330 ft. from N line, 330 ft. from E line of lease, M. V. Winkle Sur. .... Derrick.
J. D. Patty et al's No. 1 J. C. McCormick, 207 ft. SE at right angles to Gladewater-Tyler road and 540 ft. SW of Abernathy and Kirkpatrick's No. 1 Gregston, M. Dillard Sur. ..... Derrick.
Pilot Oil Co.'s No. 1 J. C. Bumpass, 330 ft. from S and W lines of 25-ac. lease, W. H. Castleberry Sur. ..... Rig up.
J. C. Roger's No. 1 John Boyd, center of Blk. 12, Gladewater Townsite, H. R. Hokit Sur. ..... Waiting on cmt. to set 920 ft.
Ross et al's No. 1, located on Findley & Thomas 50-ac. tr., 150 ft. from S line and 6.66-ac. lease, C. H. Alexander Sur. ..... Derrick.
Shasta Oil Co.'s No. 1 Campbell, 330 ft. from N and E lines of 74-ac. tract, D. Ferguson Sur. ..... Drlg. 2,400 ft.
Shell Pet. Corp.'s No. 1 B. F. Laird, N offset to Robertson's No. 1 Elder, John Wilkerson Sur. ..... Derrick.
Shell Pet. Corp.'s No. 1 S. C. Fishborn, 330 ft. from N and E lines of 100-ac. lease, F. W. Johnson Sur. .. Location.
Simms Oil Co.'s No. 1 Bob Wood, 330 ft. from N and W lines of 100-ac. tr., J. Skillum Sur. ..... Waiting on cmt. to set; T.D. 3,540 ft.
Sun Oil Co.'s No. 1 Calvin Brown, 330 ft. from most southerly S line and middle of E and W lines of lease, L. B. Outlaw Sur. ..... Drlg. 2,486 ft.
Sun Oil Co.'s No. 1 J. E. Rollins, 1,492 ft. from N line, 1,492 ft. from S line, 589 ft. from W and E lines of 85-ac. lease, M. Scott Sur. ..... Derrick.
Tom C. Patten's No. 1 Geo. Walter, center of 1-ac. tr., and 396 ft. from W line of lease, Mary Van Winkle Sur. ..... Location.
Travis and Wair's No. 1 A. B. Loughridge, 330 ft. from S line, 590 ft. from E line of 30-ac. lease, Thomas Johnson Sur. ..... Drlg. 2,780 ft.
Valentine Oil Co.'s No. 1 Goyne-Hughey, 6,100 ft. from S and 6,800 ft. from W of survey, Mary Van Winkle Sur. ..... Rigging up.
Woodley Petroleum Co.'s No. 1 D. B. Harris, 150 ft. S of highway and 1,050 ft. from E line of survey, W. H. Castleberry Sur. ..... Waiting on cmt. to set 80 ft.

HENDERSON COUNTY

Alma Pet. Co.'s No. 1 T. B. Woodford, located on 529.5-acre tract, 2,500 varas from W line and 1,050 varas from N line of survey, Boly C. Walters Sur. ..... Spudded.
South American Drlg. Co.'s No. 1 D. R. Broone, 330 ft. from N and W lines of SE 40 acres of 425-ac. tr., Thomas Parmer Sur. ..... Top Woodbine sand 4,373 ft.; S.D. 4,547 ft.

HILL COUNTY

Sherman-Houseman's No. 1 J. F. Griffith, in Samuel Waddell Sur. ..... T.D. 3,256 ft.

HOPKINS COUNTY

E. L. Chapman's No. 1 J. D. Jumper, 175 ft. from N line, 285 ft. from W line of lease, Jas. Webb Sur. .. S.D. 230 ft.
Roark et al's No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tr. in the John Polk Sur. ..... S.D. 540 ft.

HOUSTON COUNTY

Apex Drlg. Co.'s No. 1 Thompson Bros., 250 ft. out of NW cor. of 200-ac. tr. in John Shears Sur. ..... T.D. 2,364 ft.
Ramsland and Ramsland's No. 1 Pennington, 750 varas W of E line and 500 varas from S line of survey on 186-ac. tr., Ramond LaGarza Sur. ..... S.D. 1,692 ft.
C. T. McManus' No. 1 Harron, 300 ft. out of NE cor. of 327-ac. tr., J. P. Procella Sur. ..... Spudded and S.D. 37 ft.

HUNT COUNTY

Branson et al's No. 1 Gray ..... Location.
Russell et al's No. 1 Brooks and Quattlebaum..... S.D. 1,455 ft.

KAUFMAN COUNTY

Hoffpier et al's No. 1 Kaufman County Farm, 210 ft. from N line, 672 ft. from W line of 524-ac. tract, D. Falcon Sur. ..... Derrick.

LAMAR COUNTY

G. W. Davy et al's No. 1 McGustion, 450 ft. from S line, 450 ft. from W. line of farm and survey, Galet Wood Sur. ..... Sidetracking drill stem 740 ft.
Optometrist Oil Club's No. 1 J. M. McFadden, 450 ft. from S and W lines of McFadden E 25-ac. tr., J. Deck Sur. ..... S.D. 1,776 ft.

LEON COUNTY

Cooper et al's No. 1 Lynch, 4,000 ft. from W line and 250 ft. from S line of Thos. H. Gardner Sur., and in 200 ac. tr. ..... S.D. 1,931 ft.
Salzer Drlg. Co.'s No. 1 Dr. J. M. Blair, 1,010 ft. from N line, 1,986 ft. from W line, Sec. 19, Blk. E, Lucia Hibbard Sur. ..... Derrick on ground.
Sun Oil Co.'s No. 2 Grayson ..... T.D. 6,782 ft. (corrected).

MORRIS COUNTY

Dumas et al's No. 1 Tom Ball, 1,046 ft. from E and 248 ft. from S of 71-ac. tr., A. S. Young hrs. Sur. .. Derrick.

NACOGDOCHES COUNTY

Bunte et al's No. 1 A. F. Boatman, 330 ft. from S and 150 ft. from W of 67-ac. tr., Wm. A. Moore Sur. .... S.D. 1,605 ft.
G. A. Teague's No. 1 Norris, 60 ft. NW of E line and 420 ft. S of road in 73.5-ac. tr., Hossea Y. Barbo Sur.. Derrick.
Gainer et al's No. 1 Nice Well, 18 miles SE of Nacogdoches, 600 ft. from S and 150 ft. from W of Wells tract in A. Cherino Sur. ..... S.D. 3,430 ft.
Joiner and Henson's No. 1 Andy Legg, 330 ft. from N and 330 ft. from W of tract, John Durst Sur. ..... S.D. 3,920 ft.
Scully & Harwell's No. 1 R. I. Driver, 1,500 ft. from SE cor. of P. B. Ballard 126-ac. tr., 15 miles SE of Nacogdoches in Patricia De Torres Sur. ..... S.D. 3,521 ft.

Taylor-Vaughn's No. 1 Dixon Greer, 160 ft. from W and 450 ft. from N lines of 60-ac. tr. in the M. G. Herrera Sur. ..... S.D. 265 ft.
Creighton Drlg. Co.'s No. 1 J. N. Stewart, center of 79-ac. tr. in the Jose Ignacio Y'Barbo Sur. ..... S.D. 3,226 ft.

POLK COUNTY

Humble O. & R. Co.'s No. 1-A Onolaska Live Stock, 1,700 ft. NW along property line from most northerly E cor. of survey and 75 ft. SW at right angles, Wm. B. Hardin Sur. ..... S.D. 1,445 ft.

RAINS COUNTY

C. H. Bayliss' No. 1 Ownby, 150 ft. N and 1,100 ft. from E of most easterly SE cor. of survey, Alexander Sur. ..... S.D. 4,036 ft.

RED RIVER COUNTY

Droppleman and Bundy's No. 1 J. W. Cunningham, 250 ft. from the S and 1,066 ft. from the E lines of B. M. Ballard Sur. ..... Rig up.
Gibbs et al's No. 1 Mace (old well being drilled deeper), 1,200 varas from S line, 1,500 varas from E line of survey, Wm. Cullam Sur. ..... S.D. 3,500 ft.
Hoffman and Henson's No. 1 H. H. Lennox, 2,790 ft. W and 300 ft. S of most easterly NE cor. of survey, J. E. Edmondson Sur. ..... Cable tool test 100 ft.
Harris & Joiner's No. 1 E. Howison, 225 ft. S, 185 ft. W of 79-ac. tr., Wm. Humphreys Sur. ..... S.D. 1,940 ft.
Concord Oil Co.'s No. 1 J. R. Dellahunty, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glass Sur. ..... S.D. 2,426 ft.
L. G. Priest's No. 1 J. M. Stiles, 900 varas S and 500 varas E most northerly NE cor. of Jones Bankston Sur. in the Levi Dean Sur. ..... S.D. 1,047 ft.

ROCKWALL COUNTY

Bucanner Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tr. in W. M. Bird Sur. ..... Set 10-in. csg. 120 ft.

RUSK COUNTY

C. L. Archer's No. 1 J. H. Stewart, center of 3-ac. tract, E. Thompson Sur. ..... Moving in rig.
Barney Carter's No. 1 Jessie Cole, 225 ft. from N line and 160 ft. from E line of 5-ac. tract, D. Shaw Sur. ..... Location.
S. P. Borden's No. 1 T. O. Mason, center of 3.5-ac. lease, J. B. DeCadena Sur. ..... Drlg. 2,940 ft.
A. J. Brown's No. 1 Strong, J. Hallam Sur. ..... S.D. 860 ft.
Roy Bryant's No. 1 Daisy Bradford, 110 ft. from S line, 150 ft. from W line of 7-ac. lease, Juan Ximines Sur. ..... Drlg. 3,610 ft.
Byrd-Frost's No. 1 Buckner, J. E. Peyton Sur. ..... S.D. 2,840 ft.
Dutton and Alladay's No. 1 R. M. Leath, 648 ft. from S line and 339 ft. from W line of 111-ac. tract, D. Clark Sur. ..... Drlg. 70 ft.
Hale and Hatchfield's No. 1 C. J. Goforth, 625 ft. from S line and 450 ft. from W line of 13.4-ac. tract, M. J. Pru Sur. ..... Rig up and S.D.
Hathaway et al's No. 1 Gray, J. M. McLain Sur. ..... Fishing for drill stem 3,102 ft.
H. E. Hilden's No. 1 Varney, 100 ft. from N line, 125 ft. from E line of road, W. G. Tutt Sur. ..... Derrick.
V. P. Henson et al's No. 1 R. W. Fair, 90 ft. from W line and 340 ft. from N line of 40-ac. tract, M. J. Pru Sur. ..... Drlg. 1,860 ft.
Howell's No. 1 Irion and Motley, 200 ft. from N line, 1,270 ft. from W line of survey, J. Lindley Sur. .... Derrick.
Humble O. & R. Co.'s No. 1 Ben Peterson, 452 ft. from N line, 330 ft. from W line of N line and 330 ft. from W line of 50-ac. lease, J. Lewis Sur. ..... Waiting on cmt. to set 3,648 ft.
Humble O. & R. Co.'s No. 1 J. E. Arnold, 330 ft. from S and W lines of 23.5-ac. lease, H. Smith Sur. ..... T.D. 3,720 ft.
Humble Oil & Ref. Co.'s No. 1 Mrs. V. E. Reed, 320 ft. from S line and 330 ft. from W line of 70-ac. lease, T. J. Martin Sur. ..... Waiting on cmt. to set 757 ft.
A. W. Jones Oil Co.'s No. 1 J. M. Grant, 346 ft. from S line, 1,074 ft. from E line of 100-ac. tr., T. J. Walling Sur. ..... Fishing 2,410 ft.
Lewis Prod. Co.'s No. 1 W. D. Peterson, 150 ft. from S and W lines of lease, J. Lewis Sur. ..... Waiting on cmt. to set; T.D. 3,574 ft.
La. O. & R. Co.'s No. 1 Jernigan, 330 ft. from S line, 1,033 ft. from W line of 100-ac. lease, McCabe Sur... Rigging up.
LaSalle-Davenport and Bledsoe's No. 1 Church, 175 ft. S and 175 ft. E of SE cor. of Sun-Schuler joint lease, J. B. DeCadena Sur. ..... Location.
Magnolia Pet. Co.'s No. 1 S. W. Moore, 285 ft. from N and E lines of 29.75-ac. tract, J. B. DeCadena Sur. ..... Drlg. 1,050 ft.
W. H. McMurray's No. 1 Blackwell, 238 ft. W and 247 ft. N of most westerly NE cor. of Stone's 169-ac. tr., M. J. Pru Sur. ..... Fishing for csg. 3,705 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 W. T. Grissom, 330 ft. from N line, 330 ft. from W line of lease, J. B. Brown Sur. ..... Bldg. derrick.
Albert Nathan's No. 1 Deason, center of 5-ac. tract, Juan Ximenes Sur. ..... Drlg. 2,175 ft.
Overton Ref. Co.'s No. 1 fee, 105 ft. NW of Patton Rhodes' No. 1, F. Cordova Sur. ..... Drlg. 1,000 ft.
Geo. L. Pace's No. 1 E. B. Alford, center of 5-ac. lease, T. J. Moore Sur. ..... Spudded.
Pitzer and West's No. 1 Mattie Giles, 150 ft. from S line, 100 ft. from E line of 13.7-ac. tr. on a 1-ac. lease, M. J. Pru Sur. ..... Waiting on cmt. to set.
J. T. Reese's No. 1 Marshall Clay, 330 ft. from N and W line of 65-ac. lease, Juan Ximenes Sur. .... Rig up.
Ross Seward's No. 1 Burton, J. J. Y'Barbo Sur. ..... Fishing 3,077 ft.
Shasta Oil Co.'s No. 1 H. Alexander, 330 ft. from N and W lines of 20-ac. lease, T. Grace Sur. ..... Drlg. 3,445 ft.
Stanolind O. & G. Co.'s No. 1 T. O. Mason, 532 ft. W of SE cor. of tr. and center of N and S lines of lease, J. B. DeCadena Sur. .. .. Waiting on cmt. to set.
Stanolind O. & G. Co. and Pure Oil Co.'s No. 1 R. A. Moores, 330 ft. from S line, 2,378 ft. from W line of 210-ac. tr., J. B. DeCadena Sur. ..... Drlg. 3,530 ft.
Stanolind and Pure Oil Co.'s No. 1 Rass Lacy, 330 ft. from N and E lines of 100-ac. tract, J. H. Sparks Sur. ..... Waiting on surface csg. to set.
Sullivan and Burch's No. 1 E. B. Alford, 550 ft. W, 150 ft. S of NE cor. of 75.75-ac. tr., Isaac G. Parker Sur. ..... S.D. 2,925 ft.
The Texas Co.'s No. 1 J. M. Price, located in the NW cor. of J. M. Price's 90-ac. lease, Thos. M. White Sur. ..... Coring 3,628 ft.
The Texas Company's No. 1 W. W. Henry, 330 ft. from S and E lines of 229-ac. tract ..... Derrick.
M. L. Thompson's No. 1 Price, Hugh Million Sur. ..... S.D. 3,280 ft.
Tidal Oil Co.'s No. 1 Otis Whittington, 250 ft. out of most southerly NW cor. of 40-ac. tract, John Darley Sur. ..... Drlg. 3,565 ft.
Tulsa Oil Co.'s No. 1 J. R. Iron, 330 ft. from S line and 343 ft. from E line of lease, John Womack Sur. ..... Drlg. 2,880 ft.

JOINER POOL—RUSK COUNTY

Armstrong's No. 1 Alford, 151 ft. from S and 1,080 ft. from W of survey, T. J. Moore Sur. ..... Derrick.
Paulett et al's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... Bailed dry after small show of gas; T.D. 1,312 ft.
Pitts et al's No. 1 Freeman, 1,000 ft. N of S line and 1,000 ft. E of W line of 181-ac. tr., J. Watkins Sur. .. Rig blew down.

SAN AUGUSTINE COUNTY

Smith and Baker's No. 1 Pickering Lbr. Co., 6 miles N of San Augustine, E. Quick Sur. ..... Derrick.

SMITH COUNTY

Bunte et al's No. 1 Atkinson, 1,000 ft. from S line and 1,000 ft. from N line of 330-ac. tr., Calloway Dean Sur. ..... Derrick.
Joiner et al's No. 1 C. S. Jackson, 500 ft. from N and 500 ft. from W of 39.88-ac. tr., Henry Mickleborough Sur. ..... S.D. 4,038 ft.
McCulloch et al's No. 1 Methodist Church, 330 ft. from N line of survey and 330 ft. from E line of 12.75-ac. tract, James Jordan Sur. ..... Derrick.
J. R. Mecker et al's No. 1 Lewis Bacon, 990 ft. from N line, 906 ft. from W line, Wm. Sparks Sur. ..... Drlg. 3,965 ft.
Tytex Oil Co.'s No. 1 Alex Weidert, 2,030 ft. from S line, 525 ft. from E line of Franklin T. Bodenheimer Sur. ..... Derrick.

TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... Coring 3,345 ft.
Joiner et al's No. 1 Clayton Brown, 1,300 ft. from E and 400 ft. from most northerly S line of V. Evans Sur... S.D. 2,250 ft.

UPSHUR COUNTY

L. G. Bradstreet et al's No. 1 O. M. Victory, 330 ft. from N and E lines of 10-ac. lease, E. A. J. Evans Sur. ..... Location.
Cranfill & Reynold's No. 1 Milton Rash, 1,667 ft. E of W line and 330 ft. N of S line of Rash estate, E. N. Eubanks Sur. ..... T.D. 3,729 ft; set 6⅝-in. csg.
Conservative Oil Co.'s No. 1 J. N. Tuttle, 620 ft. from E line, 320 ft. N of road, D. Ferguson Sur. ..... Waiting on cmt. to set 3,694 ft.
Danciger Oil & Ref. Co.'s No. 1 Stinchomb, 1,110 ft. from S line and 350 ft. from W line of lease, Marshall Mann Sur. ..... Derrick.
Galvez Oil Co.'s No. 1 Moore heirs, 330 ft. S, 990 ft. E of NW cor. of 50-ac. tr., D. Ferguson Sur. ..... Waiting on cement to set 3,670 ft.
Gillett-Tarr and Potter's No. 1 D. A. Irion, 330 ft. from N line and center of E and W line of tract, D. A. Lucas Sur. ..... Derrick.
Hawkeye Pet. Co.'s No. 1 H. Fenton, 330 ft. from W line and center of N and S lines of 13.5-ac. tr., G. W. Hooper Sur. ..... Drlg. 2,705 ft.
H. C. Hurley's No. 1 W. F. Smith, 330 ft. from E line and center of N and S lines of S 25 acres of W 50 acres of 100-ac. tr., J. Pineda Sur. ..... Rig up.
Jackson and Bradstreet's No. 1 Victory, center of 25-ac. lease, E. A. J. Evans Sur. ..... Base of Austin chalk 3,590 ft.
J. W. Love's No. 1 Bain, 200 ft. from N line, 2,093 ft. from W line of survey, W. H. Williams Sur. ..... Set surface csg. 60 ft.
Pilot Oil Co. et al's No. 1 J. D. Ray et al, 1,050 ft. from N line, 950 ft. from S line, 990 ft. from W line of 218-ac. tr., A. H. Wood Sur. ..... S.D. 3,360 ft.
Stanolind Oil & Gas Co.'s No. 1 Arthur Newsom, 900 ft. from S line and 990 ft. from E line of 32.33-ac. tract, Calvin Anderson Sur. ..... Drlg. 2,750 ft.
Steen Drlg. Co. and Shell Pet. Corp.'s No. 1 J. F. Phillips, 320 ft. out of most southerly SE cor. of 94-ac. tract, J. M. Pineda Sur. ..... Derrick.
L. E. Trout et al's No. 1 O. M. Victory, 330 ft. from S and E lines of 60-ac. lease, E. A. J. Evans Sur..... Derrick.
J. A. Wood's No. 1 A. J. Sanders, 271 ft. S, 330 ft. W of NE cor. 45-ac. lease, T. Allen Sur. ..... Testing 3,656 ft.
Wolf's No. 1 Cook, center of 115-ac. tr. in Jacob Walker Sur., 5 miles W of Rosewood .. .. S.D. 1,100 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 225-ac. tr., 3½ miles S of Canton, M. J. DeCadena Sur. ..... S.D. 2,104 ft.
Kelly O. & G. Co.'s No. 1 Lemsford, center of Lemsford tr., John Conner Sur. ..... S.D. 2,300 ft.
Thomasson, Inc.'s No. 2 W. P. Forster, 600 ft. from N and 450 ft. from E of SW cor. of Forster 151-ac. tr. in the F. Montgomery Sur. ..... S.D. 3,200 ft.
Priest et al's No. 1 B. G. Beckham, 150 ft. from S line, 33 ft. from W line of 100-ac. tr., A. S. Johnson Sur.. Coring 4,900 ft.
Pure Oil Co.'s No. 3 Mrs. C. White, 250 ft. E of W line, 250 ft. S of N line, John Walling Sur. ..... Derrick.
Pure Oil Co.'s No. 1 D. F. Cade, 250 ft. N of S line of 45.3-ac. tract in Nacogdoches County School Land Sur. ..... Location.
Pure Oil Co.'s No. 1-T V. T. Davis, 400 ft. N of N line of Tunnell No. 8 lease, 480 ft. W of E line of survey, Nacogdoches County School Land Sur. ..... Drlg. 6,467 ft.
Pure Oil Co.'s No. 4 W. H. Cook, 225 ft. S of N line, 604 ft. W of E line of 31-ac. tract, Mund Gross Sur... Cmt. setting 2,644 ft.
Pure Oil Co.'s No. 6 M. F. Shirley, 150 ft. S of N line, 150 ft. W of E line of base, John Walling Sur. ..... Drlg. 1,862 ft.
Pure Oil Co.'s No. 4 R. H. Peters, 670 ft. W of E line and 200 ft. S of N line of lease, Nacogdoches County School Land ..... Drlg. 2,655 ft.
The Texas Co.'s No. 2 R. V. White, 200 ft. N of S line, 250 ft. W of E line of base, John Walling Sur. ..... Moving in tools.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... S.D. 2,850 ft.

WOOD COUNTY

Talko Oil Co.'s No. 1 G. T. Ross, B. L. Smith Sur. ..... S.D. 1,550 ft.
Wood County Dev. Co.'s No. 1 Davis, approximately 180 ft. from S line of 160-ac. tr. and 2½ miles S of Kantes in Sarah McDonald Sur. ..... Derrick.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 29)

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 34 Taylor, James Hamilton Sur. No. 52, 141 ft. S of NW cor. of J. W. Howe 130-acre tract and 430 ft. W at right angles ..... Set 20 ft. of 4½-in. screen 4,000 ft.; comp. flowing 900 bbls. P.L. oil, 360 lbs. pressure, ⅝-in. choke.
Humble Oil & Ref. Co.'s No. 1 Hooks, James Hamilton Sur. No. 52, 904 ft. N of SW cor. along W line of lease and 396 ft. E at right angles ..... Drlg. shale 3,760 ft.
Isaacs & Carwile's No. 1 Settegast (W.O.) ..... T.D. 3,393 ft.; standing.
Navarro Oil Co.-Texas Exp. Co.'s No. 16 Dooley (W.O.), J. Hamilton Sur., 50 ft. from W line and 487 ft. from S line tract ..... Cleaned hole; preparing to resume drlg. 4,908 ft.
Rio Bravo Oil Co.'s No. 10-A Settegast (W.O.), Jos. Kopman Sur. No. 44, 1,200 ft. S and 350 ft. W of NE cor. of lease ..... Drlg. sand 4,628 ft.
Rio Bravo Oil Co.'s No. 18-A Settegast, J. Kopman Sur. (W.O.) ..... Drlg. sandy shale 6,016 ft.
Rio Bravo Oil Co.'s No. 23-A Settegast, Jos. Kopman Sur. No. 44, 1,375 ft. S and 200 ft. W of NE cor. "A" lease ..... Derrick.
Southern Petroleum Corp.'s No. 1 Gulf Fee (D.D.), 224 ft. from E line and 27 ft. from S line of Lot 36, W. J. Jones Subd., B.B.B.&C. Sur. No. 1,028..... No report.

BLUE RIDGE—FORT BEND COUNTY

Telshaw and Cady's No. 1 Blakely (W.O.) ..... Comp. pumping 50 bbls. fluid, 50 per cent water.

CLEAR LAKE—FORT BEND COUNTY

Cullen & West and Gulf Prod. Co.'s No. 1-A Lockwood & Sharp (D.D.), John Rabb Sur. ..... Standing 4,807 ft.
Cullen & West and Gulf Prod. Co.'s No. 4-A Lockwood Sharp, J. Rabb Sur., 550 ft. W of No. 2-A ..... Derrick.
Gulf Prod. Co.'s No. 2 Mary D. Booth Meyers, J. Rabb Sur., 400 ft. E of No. 1 in center of tract ..... Drlg. sand rock 1,832 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 20 Cade, N. Fitzsimmons Sur., 161 ft. W of No. 15 and 146 ft. SW of No. 17 ..... Shut down 60 ft.
Yount Lee Oil Co.'s No. 24 Cade, 1,010 ft. from NE line and 1,350 ft. from NW line of N. Fitzsimmons Sur... No report.
Yount Lee Oil Co.'s No. 25 Cade, N. Fitzsimmons Sur., 100 ft. due W of No. 23 ..... No report.

DAMON MOUND—BRAZORIA COUNTY

Intercoastal Oil Co.'s No. 6 Wisdom (D.D.), A. Darst Sur., Blk. 51, 2,550 ft. from NE line and 1,150 ft. from NW line of 640-acre tract ..... No report.

NASH—BRAZORIA COUNTY

Harrison & Abercrombie's No. 15 Nash (D.D.), Thos. Alsbury League ..... T.D. 6,035 ft.; plugged to sand and shale showing oil 3,475-86 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 126-A Cotton ..... Drlg. sand 503 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 14 Mayes, E. H. R. Wallis Sur., 650 ft. due E of No. 11 in line with No. 9 ..... Drlg. hard sandy lime 1,170 ft.

MOSS BLUFF—LIBERTY AND CHAMBERS COUNTY

Gulf Prod. Co.'s No. 4 McFaddin, J. McFaddin Sur. ..... Aband. in shale 7,380 ft.
Manning Trust Co.'s No. 2 Sergent, Jas. McFaddin Sur. .. Cap rock 905 ft.; S.D.

REFUGIO—REFUGIO COUNTY

Larco Gas Co.'s No. 4 Strauch heirs, 150 ft. from N line and 150 ft. from W line, Lot 6, Blk. 2 ..... Topped sand showing oil 3,686 ft. cem. 6⅝-in. casing.
Moody Seagraves Prod. Co.'s No. 2-A St. John, Refugio town tract, 600 ft. E of No. 1-A and 300 ft. from N line of lease ..... Pulling liner and screen to deepen 5,518 ft.
United Prod. Corp.'s No. 2-A W. J. Fox, Wm. Hews and L. Brown Sur., 2,090 ft. NE along SE line from SE cor. of lease, thence 1,690 ft. NW at right angles ... Set 18 ft. screen in sand 6,466-74 ft.; comp. 100 bbls. oil, 1,500 lbs. pressure on cgs., 1,300 lbs. on tubing, ¼-in. choke.

SOUTH LOUISIANA FIELDS
IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Shell Petroleum Corp.'s No. 2 Heyd, 225 ft. out of NE cor. of Sec. 13-9s-7w ..... Building derrick.
Shell Petroleum Corp.'s No. 1 Fontenot, Sec. 18-9s-6w, 450 ft. due E No. 2 Heyd ..... Building derrick.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 10 Housierre-Latrielle, 5,435 ft. E and 1,070 ft. N of SW cor., Sec. 47-9s-2w ..... Drlg. hard sand 8,420 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 23 Watkins (W.O.), 2,495 ft. W and 132 ft. N of SE cor. Sec. 13-12s-10w ..... T.D. 2,844 ft.; sidetrack 2,614 ft.
Calcasieu Oil Co.'s No. 31 Watkins, 1,402 ft. W and 1,120 ft. N of SE cor. of Sec. 13-12s-10w ..... Standing 3,046 ft.
Calcasieu Oil Co.'s No. 32 Watkins, 1,199 ft. N and 2,043 ft. W of SE cor. of Sec. 13-12s-10w..... Sand showing oil 2,965-79 ft.; cmtd. csg.
R. E. Seiss' No. 3 Vincent, 2,195 ft. S and 1,320 ft. W of NE cor. Sec. 30-12s-10w ..... Location.
R. E. Seiss' No. 2 J. M. Vincent ..... Shut down 2,163 ft.
J. G. Sutton's No. 5 Irwin, 200 ft. N and 2,055 ft. W of SE cor. NE of Sec. 13-12s-10w ..... Sand showing oil 3,005-14 ft.; cmtd. csg.
The Texas Company's No. 8-B State, 1,875 ft. N and 600 ft. E of SE cor. of Sec. 13-12s-10w in Sec. 9..... Drlg. 500 ft.
Union Sulphur Co.'s No. 1 Humble Lease, 284 ft. N, 30 ft. W of SE cor. Sec. 11-12s-10w ..... Location.
Yount Lee Oil Co.'s No. 44 State, 1,110 ft. N and 1,915 ft. W of SE cor. Sec. 13-12s-10w ..... Location.
Yount Lee Oil Co.'s No. 45 State, 1,320 ft. N and 810 ft. W of SE cor. Sec. 13-12s-10w ..... Location.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 9 Gray (D.D.) ..... Salt 3,203-3,474 ft.; plugged back to set screen 3,124 ft.

STARKS—CALCASIEU PARISH

Gulf Refining Co.'s No. 29 Lutcher-Moore, Sec. 19-9s-12w. Drlg. gumbo 625 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 722 fee (W.O.), Sec. 29-9s-10w... No report.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 5 Sweet Lake (D.D.), Sec. 12-13s-8w... Cored sand showing oil 7,452-56 ft.

MISCELLANEOUS WILDCATS
TEXAS
AUSTIN COUNTY

O'Hara Oil & Gas Co.'s No. 1 Neilous, J. C. Cummings Hacienda Sur., 650 ft. N of No. 1 Schroeder in 18-acre tract, north edge Mill Creek ..... Derrick.
Pomacal & Boletka's No. 1 Schebajsa, 329 ft. N, 78 deg. E of N cor. B. Dottery Sur., near center of SW line of S. F. Austin 4 League on west fork of Mill Creek.. Set 10-in. casing 120 ft.; standing.

BRAZORIA COUNTY

W. D. Southerland's No. 1 C. W. Chapman, 294 ft. from S line and 104 ft. from E line of Lot 3, Andrew Robinson Sur. ..... Standing 1,514 ft.
The Texas Company's No. 2 Belcher, Harvey N. Little Sur., 1,728 ft. southeasterly from N cor. of S half of Sur., along NE line and thence 122 ft. at right angles ..... Drlg. gumbo and lime 3,950 ft.
United Oil Syndicate's No. 1 Levitt, 900 ft. from W line and 400 ft. from S line of John Peske Sur. ..... Total depth 1,594 ft. in gumbo; drill stem stuck.

BURLESON COUNTY

Marek & Son's No. 3 A. Marek, N. McFaddin Sur., 1,068 ft. N and 225 ft. W of SE cor. of tract ..... Standing 2,210 ft
M. O. & T. Corp.'s No. 1 Rigers ..... Standing 1,920 ft.

FORT BEND COUNTY

Stone & Wyman's No. 1 Beard, H.&T.C. Sur. No. 1[illegible], 1,150 ft. from NW line and 1,892 ft. from NE line ... No report.

GRIMES COUNTY

Long et al's No. 1 Dodd, Timothy Jones Sur., 280 ft. N Cobb & Rasmussen's No. 1 Dodd ..... Derrick.
Rianjo Oil Co.'s No. 3 Cuthrell, Patrick B. O'Connor Sur., 150 ft. S and E of No. 2 ..... Location.
Stanolind Oil & Gas Co.'s No. 1 Mary Sullivan, A. Yeamens Sur., 998 ft. out of SE cor. of 742-acre tract.... Location.

HARRIS COUNTY

Givens & Daybault's No. 1 Lobit, David Middleton Sur., Blk. 19, Lobit Subd. ..... Hole heaved; T.D. 2,738 ft.
Hewitt & Shibe's No. 1 Dan Wise, W.C.R.R. Sur., Sec. 11, 100 ft. out of SE cor. 149.33-ac. tract ..... Cmt. csg. 500 ft.
Louisiana Oil & Dev. Co.'s No. 1 J. W. Wilson, W. Ritchie Sur. ..... Shut down 420 ft.
Shubert & Alexander's No. 1 Herman Hale, 1,058 varas E of NW cor. R. A. Hanks Sur., thence 790 varas S and thence 70 varas W 74 deg. ..... Drlg. gumbo 2,650 ft.

JASPER COUNTY

Hext Drlg. Co.'s No. 1 Flourney, B. F. Jones Sur., 600 ft. NW of Helmerich & Payne's No. 1 Flourney ..... Drlg. shale 3,200 ft.

JEFFERSON COUNTY

Brown et al's No. 1 M. O. Todd, 200 varas S and 58 varas E of NW cor. of Wm. Carr Sur. ..... Derrick.
John I. Pipkin and Elam's No. 1 Broussard, McGaffey Sur., 800 ft. from S line in center E and W of 205-acre tract ..... Shut down 904 ft.
Texas Gulf Sulphur Co.'s No. 1 Junker, W. H. Smith League, 100 ft. S and 1,000 ft. W of NE cor. of tract.. Abnd. sulphur test 1,460 ft.
Texas Gulf Sulphur Co.'s No. 1 Thomas Fannett, Wm. Smith Sur., 1,950 ft. W, 1,600 ft. S of NE cor. of Thomas' 446-acre tract ..... Sulphur test.
Westbury Oil Co.'s No. 4 West, 450 ft. W and 4,210 ft. S of NE cor. of T. D. Yoakum Sur. ..... Shut down in gumbo 600 ft.

LIBERTY COUNTY

Hamm et al's No. 1 Harvard, Davis Hill ..... Gumbo 1,015 ft.; shut down.

MATAGORDA COUNTY

United North & South Oil Co.'s No. 1 Stoddard, J. C. Keller Sur., 150 ft. W and 545 ft. N of SE cor. Blk. 53, Buckeye townsite ..... Drlg. shale 6,330 ft.

MONTGOMERY COUNTY

Herman Heep et al's No. 1 Cartwright, 2,851.6 ft. southerly along W line from NW cor. of John O. Davis Sur. and thence 450 ft. E from said line..... Location.
Pevehouse Oil Co.'s No. 1 Sealey, Jas. Pevehouse Sur., 1,575 ft. N of N line of Horton & Woodson's 1,562-acre tract and 2,326 ft. E of W line of H.&W. 1,870-acre tract ..... Drlg. gumbo 2,815 ft.
Karl Young et al's No. 1 Damuth, 6,800 ft. from W line and 3,000 ft. from S line of T. J. Nichols Sur. ..... Drlg. shale 1,734 ft.

NEWTON COUNTY

R. T. Briscoe et al's No. 1 Joe Inman, approx. 1,900 ft. E and 500 ft. N of SW cor. of J. M. Scott Sur. ..... Fishing drill stem 1,300 ft.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur. No. 1, 500 ft. from N line and 250 ft. from E line of tract ..... T.D. 4,063 ft; drlg. sidetracked hole 2,900 ft.
Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1 ..... T.D. 3,060 ft; drlg. sidetracked hole 1,600 ft.

POLK COUNTY

Freeman et al's No. 2 Freeman ..... Shut down 3,162 ft.
T. B. Hoffer's No. 1 Saner-Ragly Lbr. Co., 300 ft. out of most northerly cor. of most easterly County School Land Abst. 271 ..... Shut down 1,517 ft.

REFUGIO COUNTY

Blanco Creek Oil Co.'s No. 1 Damaan, 150 ft. from N line and 150 ft. from W line of Blk. 14, Bonnie View Ranch Subd. ..... Shut down 4,627 ft.
J. C. Dixon's No. 1 Peck, 450 ft. S, 150 ft. E of NW cor. of S half of Sec. 24, Bonnie View Ranch Subd., Estaban Lopez Sur. ..... Cem. 12½-in. casing 100 ft.; standing.
Humble Oil & Ref. Co.'s No. 2 O'Connor, John Keating Sur., 933 ft. N, 20 deg. E of No. 1 ..... Derrick.

SAN JACINTO COUNTY

E. P. Edwards' No. 1 J. R. Bennett, Cold Springs ..... Shut down 750 ft.

TRINITY COUNTY

Scientific Producers Co.'s No. 1 Thompson, I.&G.N. Sur. No. 47, 50 ft. out of NE cor. of E. K. Thompson 199-acre tract ..... S.D. 1,191 ft.

TYLER COUNTY

King Oil Co.'s No. 1 Caswell ..... Sand and shale showing oil 1,[illegible] ft.; cem. 6-in. casing 1,218 ft.; standing.
Allied Pet. Co.'s (Texas Southern Pet. Co.) No. 3 Wilson, Mrs. E. Cherry Sur. No. 798, 1,500 varas from W line and 600 varas from N line ..... Shut down 5,025 ft.

VICTORIA COUNTY

Bunte et al's No. 1 Keeran, 3,714 ft. NE along railroad from SW line of Martin DeLeon Sur., and thence 1,600 ft. NW at right angles ..... Sand showing oil 5,182-91 ft.; drill stem test showed 750 lbs. gas pressure, ¼-in. choke; awaiting on casing.
Houston Oil Co.'s No. 1 Conrad, T.&N.O. Sur. No. 1, 1,100 ft. from SW line and 100 ft. from NW line .... Heaving shale 5,290 ft.; cem. hole to 4,656 ft.; bailed dry; standing.

WALKER COUNTY

Hart Oil Co.'s No. 1 Thompson Lbr. Co., Jose Ortega Sur., 1,265 ft. S, 1,876 ft. W of SW cor. of J. B. Gibson's 71-acre tract ..... Cored sandy shale 1,838 ft.; to make drill stem test.

WALLER COUNTY

McDaniel and associates' No. 1 Citizens State Bank, B.B.B.&C. Sur., C of 150-acre tract ..... No report.

WASHINGTON COUNTY

Penn-Tex Oil Co.'s No. 3 Kamah Brenham, S. M. Williams Sur. ..... Lime and anhydrite 3,550 ft.; shut down.

SOUTH LOUISIANA
ASCENSION PARISH

McElroy Pet. Co.'s No. 2 Lacey, 150 ft. S, 150 ft. W of NE cor. of Sec. 29-10s-4e ..... Shut down 4,515 ft.

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w ..... Shut down 875 ft.
I. O. Davis' No. 1 Industrial, Sec. 29-9s-10w ..... Standing 6,568 ft.
Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ..... Shut down 3,650 ft.
Success Oil Co.'s No. 1 Hewitt, 90 ft. out of SW cor., Sec. 11-9s-11w ..... Rig.

EVANGELINE PARISH

Emile LeDeau's No. 1 Vidrine, 260 ft. W and 350 ft. S of NE cor. of Sec. 47-3s-2e ..... Rig.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 26 Lake Peigneur, Sec. 58-12s-5e, 950 ft. N, 78 deg. 6 min. W of No. 8 ..... Sulphur test.

IBERVILLE PARISH

Standard Oil Co.'s No. 2 Myrtle Grove-Wilbert, Bayou Choctaw, 2,040 ft. N and 600 ft. W of C of Sec. 52-9s-11e ..... Drlg. 200 ft.
Standard Oil Co.'s No. 2 Gay, Bayou Choctaw, 4,500 ft. N and 600 ft. E of SW cor. SE of Sec. 52-9s-11e ..... Drlg. 3,365 ft.
Standard Oil Co.'s No. 7 Schwing, Bayou Blue, 1,359 ft. N and 1,856 ft. E of C of Sec. 74-9s-10w ..... Sandy shale showing oil 1,875 ft.

LA FOURCHE PARISH

State Prod. Co.'s No. 1-B Stark, 1,921 ft. E and 1,540 ft. S of NW cor. of Sec. 71-15s-15e ..... Sulphur test.
State Prod. Co.'s No. 1-C Stark, 210 ft. S and 140 ft. E of NW cor. of Sec. 71-15s-15e ..... Sulphur test.
The Texas Company's No. 4 L.L.&E., Leesville, Sec. 26-21s-22e ..... Location.

PLAQUEMINES PARISH

Humble Oil & Ref. Co.'s No. 5 Cockrell-Moran, Lake Grand Ecaille, 10,277 ft. N and 2,614 ft. W of NE cor. of Twp. 21s-26e ..... Location.
Humble Oil & Ref. Co.'s No. 7 Cockrell-Moran, Sec. 14-20s-26e, 400 ft. S of No. 4 ..... Dredging canal to location.

POINTE COUPEE PARISH

Grand Bay Oil & Gas Co.'s No. 1 Moniotte, 10,140 ft. S and 13,450 ft. E of NW cor. Twp. 5s-11e in Sec. 24... Shut down 310 ft.

TERREBONNE PARISH

La. Gas & Fuel Co.'s No. 2 Minor, 3,480 ft. S and 1,980 ft. E of NW cor. Sec. 3-18s-16e ..... To make drill stem test in sand 4,038 ft.
The Texas Company's No. 5 State, Dog Lake, 2,270 ft. S and 450 ft. E of NW cor. of Sec. 5-22s-16e ..... Location.
The Texas Company's No. 4 La.L.&E., Bay Junop ..... Location.
The Texas Company's No. 5 State, Lake Pelto, 1,505 ft. N and 1,539 ft. W of SE cor. of Sec. 8-23s-18e ..... Drlg. 200 ft.
The Texas Company's No. 10 State, Lake Barre ..... Location.
The Texas Company's No. 12 State, Lake Barre ..... Location.
The Texas Company's No. 14 State, Lake Barre ..... Location.
The Texas Company's No. 1 La.L.&E., Lake Barre, 2,645 ft. S and 596 ft. E of NW cor. Sec. 30-21s-20e ..... Sandy shale showing oil 3,688-3,701 ft.; cmtd. 7⅝-in. csg. 3,681 ft.; drld. plug to set screen.

VERMILION PARISH

Pure Oil Co.'s No. 3 Alliance Trust Co., Gueydan, 1,875 ft. E and 950 ft. S of NW cor. of Sec. 34-11s-1w .... Drlg. sand 597 ft.

WEST FELICIANA PARISH

Putnam Syndicate's No. 3 Como Plantation, Sec. 51-1s-4w. No report.

Brief Items for Petroleum Refiners

Atlantic Refining Claims Water Rate Is Discriminatory

NEW YORK, Jan. 16.—H. S. Brown, U. S. Shipping Board examiner, has started a hearing here on a protest filed by Atlantic Refining Co., Philadelphia, against the Ellerman & Bucknall Steamship Line and other steamship companies engaged in the South African trade. The complaint of Atlantic Refining charges that the rates charged by the companies on shipments of petroleum products from Philadelphia to South African ports are discriminatory in favor of New York.

H. G. Shadd, representing the Atlantic company, declared that his company has been treated "in a high-handed manner" by the conference steamship lines, and intimated that a competitive company making shipments of refined products to South Africa from New York had been treated much more favorably. Whenever the Atlantic has requested a vessel to call at its Point Breeze plant, he said, there had always been at least 20,000 cases of gasoline or other products available. A representative of the steamship lines, on the other hand, stated that in his belief there had not been a shipload of cargo available for the conference line vessels calling at Philadelphia for the past two years.

Cross-examined by G. W. Laroe, Jr., representing the Port of New York Authority, Mr. Shadd admitted that in instances where rates to South Africa were quoted from the Delaware River piers at Philadelphia, Atlantic Refining Co. could not properly insist that vessels go to Point Breeze, 5 miles farther up the river, without specific contract arrangements for such a call and conceded that his company might have to bear the cost of lighterage.

As a general rule, Mr. Shadd said,

(Continued on Page 81)

PENNZOIL REDUCES PRICE

KANSAS CITY, Mo., Jan. 16.—The Pennzoil Co. of Oil City, Pa., according to advertisements appearing in local newspapers, has reduced the retail price of its lubricating oil from 35 to 30 cents. The company is one of the largest sellers of Pennsylvania Grade lubricating oil and is the first of the major Pennsylvania refiners to announce a price reduction. The Pennzoil oils are refined at the company's refinery located near Oil City, Pa.

PROPOSE NEW REFINERY

FORT WORTH, Tex., Jan. 16.—An option has been taken on the Nacogdoches Refining Co.'s 3,500-bbl. refinery in Nacogdoches County by George Gainter, who is to drill a number of shallow wells in the county where oil yielding a high grade lubricant is produced. If the wells prove producers and justify purchase and reconstruction of the plant, he will take up the option and continue with plans now formulated to place the plant in operating condition.

BURFORD MOVES OFFICES

CHICAGO, Jan. 16.—Offices of Burford Oil Co. here were moved today from the LaSalle-Wacker Building to 122 South Michigan Avenue, Room 712. Roy Vaughn, formerly with Petroleum Oils Corp. of Kansas City, has been made division sales manager at the Chicago offices to succeed W. B. Richardson, who has accepted a similar position with Industrial Naphtha & Solvents Co., 444 St. James Place, Chicago.

UNIVERSAL ANNOUNCES ROYALTY RATE FOR CRACKING GASOLINE

The Universal Oil Products Co., owner of the Dubbs cracking process, effective February 1 will offer refiners a special royalty agreement covering the cracking or reforming of straightrun gasoline and naphtha. The royalty rate will be less than now charged for cracking gas oil and fuel oil. The new rate, however, will apply to the gasoline fractions of crude oil when crude is charged direct to the cracking units. The Dubbs process which is the largest of the licensed processes has been adapted to handling gasoline and naphtha with the view of materially increasing octane ratings.

In connection with the new policy in regard to royalty rates the Universal company made the following announcement:

"Skimming crude oil as the major method of producing gasoline is definitely on the way out. Except in cases where lubricating fractions must be taken out, or other special considerations exist there will be no point in a skimming operation when the entire crude oil can be fed into a Dubbs cracking unit, the light fractions cracked at the low royalty rate, the rest of the oil cracked at the regular rate and the entire motor fuel output produced as high antiknock gasoline.

"It will not be necessary to build a special unit to crack the light fractions. The newest type of Dubbs unit of which several are operating in Pennsylvania and West Virginia and one in Oklahoma can crack crude oils, light oils, heavy oils or any other stock with equal facility.

"In fact, one of the units in Pennsylvania has been running for sometime cracking straightrun gasoline exclusively, having previously demonstrated its ability to crack fuel oil, naphtha and kerosene. Results reported from this plant from the cracking of gasoline show yields of over 80 per cent of gasoline of 76 octane number with gas production running around 10 to 11 per cent based on the charge. The original straightrun gasoline has a 40 octane number.

"In many refineries there are large stocks of straightrun gasoline in tanks—gasoline that has been stored to wait for a firmer market. Most refiners are convinced that a satisfactory market for straightrun gasoline will never come again—that the only way to dispose of this gasoline profitably is to crack it into antiknock gasoline.

"While automobile manufacturers for several years have been designing engines whose fuel requirements were more and more exacting, due to higher compression pressures and other features, the 1932 models now on display at the automobile shows and in dealers' showrooms surpass all previous cars in their demands for antiknock fuel.

"Salesmen for some cars frankly tell the inquirer that their cars require high antiknock gasoline for truly satisfactory performance. It is estimated by men in close touch with the automobile world that about 13,000,000 cars—about half of those now in service are from three to five years old. It is probable that these old cars are furnishing most of the outlet for so-called 'third grade' and other gasolines that sell at a low price.

"It is not only probable but certain that every owner of one of these old cars is going to make haste, as soon as the clouds in his financial sky show any sign of lifting, to buy a new car. From the interest displayed in the new models it appears that the clouds already are lifting to a considerable degree.

"It is certain also that the automobile manufacturers and dealers are launching with the new year an unprecedented drive to sell their cars and are offering more for the money than ever before. It is equally certain that every new car that goes into service is going to have a higher compression pressure than the one it replaces and is going to demand a fuel of higher antiknock value. It looks as if 1932 will be a bad year for straightrun gasoline."

SIMRALL TO BUILD 3,000-BBL. PLANT IN CANADA

BUFFALO, N. Y., Jan. 16.—A charter has been granted the Simrall Refining Co., Ltd., to build a plant in Amherstburg, Ontario, Canada. A site has been purchased along the river front which will facilitate the distribution of its products by barge and tanker. Crude will be delivered to the plant by the Buckeye Pipe Line Co. and by tank car from the Kentucky fields. The company has production in the Kentucky fields and the same interests operate the Simrall Refining Corp. which has a plant at Horse Cave, Ky.

The refinery to be built will have a capacity of 3,000 bbls. daily. Negotiations are under way to purchase a plant in the Muskegon, Mich., area and move it to the Canadian location.

Officers of the new company include J. J. Maclennan, J. N. Black and J. N. Simrall.

HARVEY WILLSON HEADS OIL CITY HEADQUARTERS

OIL CITY, Pa., Jan. 16.—Harvey Willson, who has been appointed secretary of the Pennsylvania Grade Crude Oil Association, suceeding Rodney J. Alexander, resigned, will have charge of the general offices located here, according to an official announcement from the association's headquarters this week.

Fayette B. Dow, who was elected vice-president and general counsel of the association last week, will continue his offices at Washington, D. C. He is also general counsel of the National Petroleum Association and counsel for the Western Petroleum Refiners Association. At his Washington office Mr. Dow will give his attention principally to the finincial affairs of the association and all major questions of association policy, including the underlying economic problems of the industry.

Mr. Willson has been assistant secretary of the association for the past six months, having come from New York City, where he was assistant general manager of the Rubber Manufacturers Association for nine years, and subsequently publisher of a tire trade journal. His experience has been along lines closely related to the work of the Pennsylvania Grade Crude Oil Association.

LARGE INSTALLATION AT FRENCH REFINERY

Arthur G. McKee & Co. has been awarded a contract covering the installation of refinery equipment at the Normandy refinery located at La Havre, France. The initial installation will be a $1,000,000 primary crude distillation unit. It is reported that later additional equipment will be installed totaling $15,000,000.

The order was placed through the Schneider et Cie at Paris, which is affiliated with Arthur G. McKee & Co.

NEW CATALYST TO AID HYDROGENATION OF OIL

As a result of developing a new catalyst for the hydrogenation of coal and oil, Germany expects to produce enough motor fuel in the near future to fill 2 per cent of the country's needs. The I. G. Farbenindustrie A. G. is using the new catalyst at its Leunawerke plant and motor fuel production is said to be increasing so that the output annually will total 300,000 tons, or three times that at present.

A protective tariff of 16 pfennig permits a rather free development of the German industry and despite the low oil prices elsewhere has stabilized the hydrogenation industry. Now that a cheaper means of producing the motor fuel has been found, the new industry will be still better able to meet outside competition.

The position of the I. G. Farbenindustrie has been further improved by the proximity of raw material for their Luena works from the petroleum wells which have recently been opened up not far away. In particular the I. G. obtains the very high grade Burbach oil, which results in a considerable improvement in the position from the profit-earning point of view. The price advantage depends, therefore, on the maintenance of the high import duty on benzine.

The improved manufacturing process justifies the hope that in future the economic production of Leuna benzine will be independent of fluctuations in the prices of petroleum, and that the cheapening of its production may have a decisive influence toward a permanent reduction in the prices of motor fuels.

PLANS FOR REFINERY AT TEXAS CITY INDEFINITE

NEW YORK, Jan. 18.—The Pan American Petroleum & Transport Co. has made no definite plans for construction of a $3,000,000 refinery on the site purchased some months ago near Texas City, Tex., despite reports to the contrary it was said at the company's headquarters here today. The project has received considerable attention during recent months but pending further developments in the oil tariff situation plans have been indefinitely postponed.

The proposed refinery is closely linked with the oil tariff question. R. G. Stewart, president, at the last annual meeting told stockholders that if the company was allowed to continue imports of oil from its South American properties the end of its development program as far as refineries were concerned was near. However, he added a tariff or embargo on imports of oil might force the company to continue this program and build pipe line facilities in Texas and a refinery on the Gulf Coast. With this in mind the company had already purchased land in Texas on which to build a refinery if forced to do so, he concluded.

MAY BUILD REFINERY

HOUSTON, Tex., Jan. 16.—The LaPorte Oil & Refining Co., a newly organized company, has announced it is purchasing a site on the Houston Ship Channel near LaPorte and that it will build a small topping plant and terminal. The company is headed by J. D. Wrather, who also is connected with the Kilgore Refining Co., Kilgore, Tex., and the Overton Refining Co., Overton, Tex. The company has made known no definite plans concerning actual construction of the plant.

Manufacture of Natural Gasoline

PHILLIPS GETS LARGE ARMY AVIATION ORDER

The Phillips Petroleum Co. has been awarded a contract by the United States Army Air Corp. calling for the minimum delivery of 3,819,000 gallons of aviation gasoline for the six-month period starting January 1 and ending July 1. The gasoline will be used in army zones 2, 3 and 4, which cover practically all of the United States except the Atlantic Seaboard.

All of the gasoline will be stabilized natural gasoline meeting the special requirements of the army's air service. For the fighting grade a minimum octane rating of 87 is required. The seller is permitted under army regulations to use 6 c.c. of tetraethyl lead in bringing the gasoline up to the required octane rating. A Reid vapor pressure of 6.5 pounds is required. In the case of the domestic grade aviation no tetraethyl lead is used. The gasoline will be utilized with all types of airplanes in the army service.

SHELL MEN MEET

Twenty-four representatives of the Shell Petroleum Corp.'s gasoline department met in Ponca City, Okla., January 13 for their annual meeting to discuss general operation of gasoline plants and safety measures. They represent the states of Oklahoma, Kansas and Texas.

A business session was held during the afternoon, and various representatives gave addresses on technical phases of gasoline plant operation and the distribution of by-products. S. S. Smith, general manager of the gasoline department, and F. E. Shryock, general superintendent at Tulsa, headed the group comprising R. D. Risser, R. J. Lauder, R. E. Baker, Norris Plant, F. B. Mack, W. H. Harding, M. B. Tucker, A. N. Naylor, C. E. Smith, F. A. Hagwer, E. H. Ross, M. R. Church, S. U. Young, L. Lamar, J. H. Forshee, C. E. Haynes, S. W. Craig, R. B. Dowlins, E. B. Hewitt, W. L. Burcham, P. A. Poor and W. Morse.

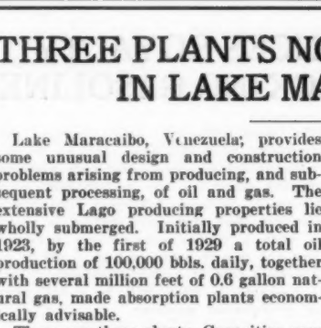
GLADEWATER BUYS HUMBLE GAS

FORT WORTH, Tex., Jan. 16.—The Gladewater Gasoline Co., which is constructing a six-unit, 3,000,000-foot capacity natural gasoline plant, will purchase gas from the Humble Oil & Refining Co., Cox and Hammon, Lewis Sikes, California Petroleum Co., Grisham and Hunter and Sakabo Oil Co. in the Gladewater area. It will also take the gas from associate company's two wells.

THREE PLANTS NOW OPERATING IN LAKE MARACAIBO SECTION

Lake Maracaibo, Venezuela, provides some unusual design and construction problems arising from producing, and subsequent processing, of oil and gas. The extensive Lago producing properties lie wholly submerged. Initially produced in 1923, by the first of 1929 a total oil production of 100,000 bbls. daily, together with several million feet of 0.6 gallon natural gas, made absorption plants economically advisable.

There are three plants. Capacities vary from 5,000,000 feet daily for the smallest to about 22,000,000 feet for the largest. Absorber pressures are, in all cases, approximately 35 pounds. Corresponding



Map showing location of plants.

oil circulations are 100,000 to 600,000 gallons per day, with gasoline productions of 2,800 to 12,000 gallons daily. All plants were designed, manufactured, and construction supervised by C. F. Braun & Co., Inc.

Plant No. 3, the smallest, is installed about a mile offshore at LaRosa. It was completed first. The entire distillation and absorption plant is mounted on a standard pipe rack adjacent to one of the drilling rigs.

Major apparatus for Plant No. 3 includes: One 48-inch absorber; a 32-inch still; a 32-inch rectifier; three D-80 heat exchangers; four D-80 coolers; two D-80 condensers; and one D-80 preheater. All heat exchange apparatus is shell and tube type with removable bundles.

Plant No. 2, having a capacity of 10,000,000 feet daily, made gasoline a month later. This plant, located at Lagunillas about 25 miles from Plant No. 3, is erected on a concrete platform 22'x39' supported by 70-foot concrete piles imbedded in the lake bottom. This plant is 1½ miles from the shore.

Equipment at Plant 2 includes: Three 48-inch, 22-tray absorbers; a 48-inch combined still and rectifier; three G-155 heat exchangers; three G-155 coolers; a G-120 preheater, and two G-120 condensers. The largest plant, No. 3, was finished some weeks later. It, too, is located at Lagunillas. A dismantled Braun unit in Mexico furnished some of the heat exchangers for this plant. Design of the remaining equipment created a balanced unit.

Principal equipment includes: Two 72-inch, 22-tray absorbers; a 72-inch combined still and rectifier; four K-120 gravity heat exchangers; four I-120 pressure heat exchangers; eight P-160 open section initial oil coolers; two K-120 final oil coolers; four P-160 open section condensers, and a 32-inch, 22-tray gasoline stabilizer with necessary reflux condensers, heat exchangers, reboiler, and gasoline cooler. These are standard Braun units.

This plant has the largest cooling tower basin in the world—Lake Maracaibo. Water at about 80° F. is cooled to 70° F., and redistributed to coolers. This cycle produces lower oil and gasoline temperatures than if lake water were used directly. However, the small plants use water directly from the lake.

The main pumping units on Plant No. 1 are DeLaval turbine-centrifugal. One turbine drives the lean and fat-oil pumps; a second operates the water and gasoline reflux pumps.

Plant No. 2 has a DeLaval turbine connected to four pumps in line, namely lean-oil, fat-oil, water, and reflux. Plant No. 3 uses Worthington reciprocating pumps; 7½x6x10 duplex for water, 5¼x4¼x5 duplex for both lean and fat-oil, and a 5½x2¼x4 simplex for gasoline reflux. Stabilizer charging pumps are Dean Brothers, simplex; water pumps are Worthington duplex. Every pump has a duplicate standby. All prime movers operate on 125-pound steam, exhausting to atmosphere. Temperature recorders and recorder controllers are Foxboro. Level control equipment, motor valves, and back-pressure regulators are Neilan.

Bubble columns, tanks, etc., were unloaded from steamers at La Salina about 25 miles from the plant sites. Barges transported the equipment to the plants. Limited transfer facilities necessitated shipment of heavy columns in two pieces, all columns over 5 feet in diameter or 35 feet in length having bolted center flanges. Shipped dismantled, the columns were assembled on the platform sites before erection. All columns for Plant No. 1 are of this type.

Men are taken to and from the plants by small power boats. Native labor is used. These men have very little, if any, mechanical ability. Supervision is in small groups by a "corporel" who frequently is a North American. Working hours are 6.30 to 11:00 and 2.00 to 4:00. Laborers remain at the site the entire day; foremen, "corporels," and superintendents spend the three-hour siesta period ashore.

Disposal of Productions

Gathering lines for both gas and oil, and all main flow lines are laid on the lake bottom. Again barges are used, this time as a pipe shop and for carrying the necessary winches and other paraphernalia for pipe line construction. The entire lake bed is a bird's nest of piping with duplicate pipe for every service. Most of the piping is 6-inch with a few 8-inch flow lines.

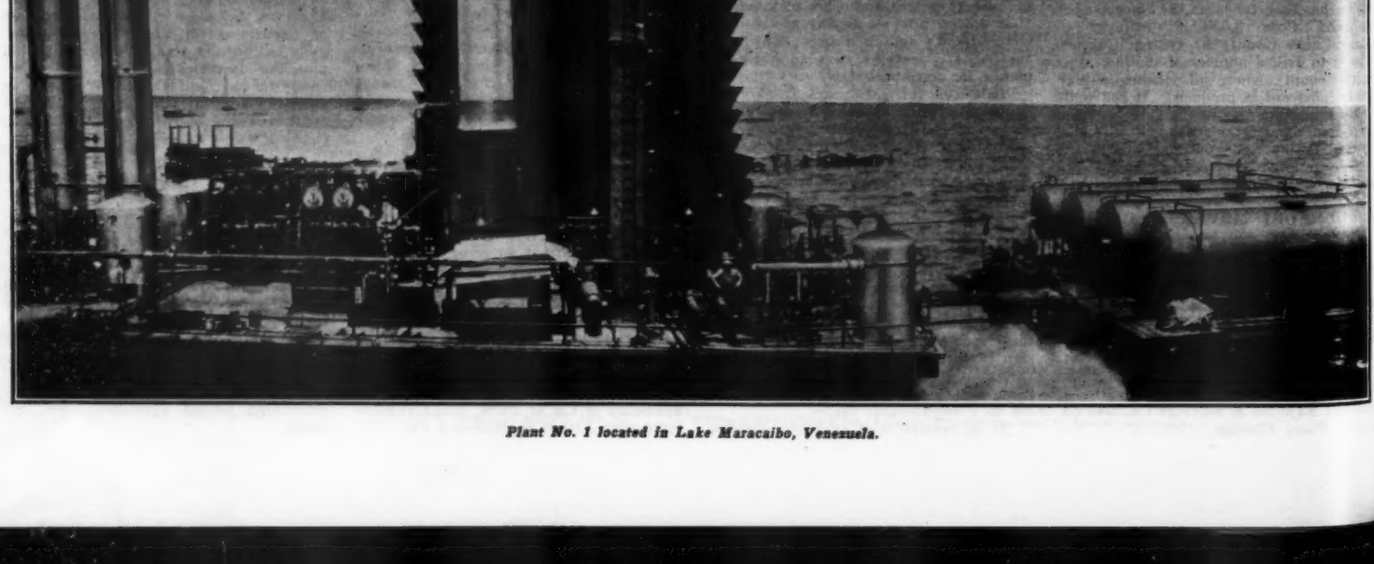
Production control is extremely flexible. Gas flow from any well may be piped directly to the absorption plants through the well separator; or the flow may be directed through one of several central flow stations.

Plant storage corresponds to usual United States practice. Plants 1 and 2 each have four 12,000-gallon tanks; Plant 3 has two 12,000-gallon tanks. Natural gasoline flows to the shore station in the crude lines, being mixed with the crude on the discharge side of the field transfer pumps. Crude containing gasoline is stored separately from the raw crude in 80,000-bbl. shore tanks.

From the shore tanks, the oil is pumped to lake tankers in the conventional pier-loading method. The tankers discharge their cargo at the Aruba refinery.

The lake water is extremely brackish, but no treaters were used. Short boiler life, scaling of preheaters, and a rapid corrosion of steam-driven equipment naturally followed. This was a heavy operating expense.

The field has now been electrified. Motors drive the drilling rigs, pump the oil to shore and tankers, and circulate oil, water, and reflux in the absorption plants. Thus, the most expensive operating problem has been solved by sound engineering.



Plant No. 1 located in Lake Maracaibo, Venezuela.

EAST TEXAS FIELDS

(Continued from Page 25)

carried for a one-quarter overriding royalty. This lease is also in Gregg County.

Lang and Rasperson and others have a block of 3,500 acres around the T. Jones Survey, west of the town of Iola in Grimes County, and have staked location 280 feet north of Cobb and Rasperson's No. 1 Todd dry hole. Derrick is now being built on this location on the Dodd farm.

Benedum and Trees have taken over Brown and others' block of 5,000 acres, 1½ miles southeast of Mims Chapel in the western part of Marion County and will start a test in 60 days.

The Woodley Petroleum Corp. has purchased a one-eighth interest in Lide and Guer's 12,000-acre block in Rains County. A test is to be drilled on the block soon.

W. J. McCullough and others have purchased the 40-acre Cook lease in the J. Jordan Survey, Smith County, from the Guy V. Lewis estate, also purchasing the estate's 20-acre Wilson lease, one-half mile north of the Cook well. Seven wells will have to be drilled on the 40-acre lease, to take care of offsets.

It would seem that practically all second-hand equipment which could be found in other producing areas in Texas and adjoining states has been moved to East Texas and used in the 3,854 completed wells in the district for at the present time more new tubing and casing is being put to use, and more new equipment is expected to be sold than heretofore, the companies having used up their supply of second-hand equipment. Some second-hand casing and tubing and equipment continues to move into the district but an exceptionally small amount in comparison to what has been moved into the field in previous months.

COMPLETIONS IN EAST TEXAS

Gregg County

F. W. Ahshire's No. 1 W. H. York, top sand 3,608 feet, initial production 34 bbls. in 15 minutes through open tubing, total depth 3,620 feet. Alco Royalty Co.'s No. 2 A. N. King, top sand 3,569 feet, initial production 105 bbls. in 10 minutes through open tubing, total depth 3,629 feet. Amerada Petroleum Corp.'s No. 4 Bumpass, top sand 3,564 feet, initial production 85 bbls. in 30 minutes through 1-inch tubing choke, total depth 3,506 feet; No. 3 McPherson, top sand 3,508 feet, initial production 72 bbls. in one-half hour through 1-inch tubing choke, total depth 3,534 feet. Arkansas Fuel Oil Co.'s No. 3-C Lathrop, top sand 3,579 feet, initial production 69 bbls. in one-half hour, total depth 3,601 feet. Atlantic and Wadley's No. 1 H. L. Foster, top sand 3,576 feet, initial production 56 bbls. per hour through 1-inch tubing choke, total depth 3,630 feet.

Cox and Hamon's No. 4 fee, top sand 3,529 feet, initial production 86 bbls. in one-half hour through tubing, total depth 3,580 feet. Empire Gas & Fuel Oil Co.'s No. 4 J. W. Akin, top sand 3,533 feet, initial production 37 bbls. in one-quarter hour through open tubing, total depth 3,593 feet. Forlyn Oil Co.'s No. 1 G. Rodden, top sand 3,607 feet, initial production 16 bbls. in one-quarter hour through three-quarters-inch tubing choke, total depth 3,615 feet. Glasscock Brothers' No. 1 Church, top sand 3,490 feet, initial production 35 bbls. in 10 minutes through 1-inch tubing choke, total depth 3,508 feet.

Gulf Production Co.'s No. 1 M. F. Barker, top sand 3,584 feet, initial production 93 bbls. per hour through three-quarters-inch tubing choke, total depth 3,601 feet. D. L. Hoffman's No. 1 Bumpass, top sand 3,520 feet, initial production in one-half hour 100 bbls. through tubing, total depth 3,580 feet. Humble Oil & Refining Co.'s No. 6 A. Carter, top sand 3,619 feet, initial production 105 bbls. per hour through three-quarters-inch tubing choke, total depth 3,650 feet; No. 5 Lawrence, top sand 3,622 feet, initial production 150 bbls. per hour through 1-inch tubing choke, total depth 3,660 feet.

Iowa-Payne's No. 2 W. H. York, top sand 3,582 feet, initial production 108 bbls. per hour through three-fourths-inch tubing choke, total depth 3,598 feet. Lechner and Hubbard's No. 1 J. N. Tuttle, top sand 3,572 feet, initial production 250 bbls. per hour through open tubing, total depth 3,685 feet. Magnolia Petroleum Co.'s No. 3 M. D. Dyner, top sand 3,550 feet, initial production 130 bbls. per hour through three-fourths-inch tubing choke, total depth 3,568 feet; No. 6 White, top sand 3,536 feet, initial production 188 bbls. per hour through open tubing choke, total depth 3,547 feet. J. H. Massey and others' No. 3 M. Fenn, top sand 3,594 feet, initial production 30 bbls. per hour through three-fourths-inch tubing choke, total depth 3,627 feet. Powell and Irion's No. 1 O. A. Talley, top sand 3,750 feet, initial production 134 bbls. per hour through three-fourths-inch tubing choke, total depth 3,775 feet.

Satellite Oil Co.'s No. 3 L. M. Colburn, top sand 3,562 feet, initial production 25 bbls. in one-half hour through three-fourths-inch tubing choke, total depth 3,602 feet. Sells Petroleum Co.'s No. 2 R. Fisher, top sand 3,564 feet, initial production 120 bbls. per hour through 1-inch tubing choke, total depth 3,585 feet. C. S. Smith's No. 1 George Jones, top sand 3,575 feet, initial production 95 bbls. per hour through three-fourths-inch tubing choke, total depth 3,580 feet. C. R. Starnes' No. 1 G. S. Dunway, top sand 3,617 feet, initial production 100 bbls. per hour through three-fourths-inch tubing choke, total depth 3,625 feet. Stroube and Stroube's No. 1 John Bumpass, top sand 3,465 feet, initial production 98 bbls. per hour through three-fourths-inch tubing choke, total depth 3,532 feet. Superior Oil Co.'s No. 7 L. C. Ingram, top sand 3,529 feet, initial production 48 bbls. in one-half hour through open tubing, total depth 3,611 feet. Sutton and Hawkins' No. 4 Whittaker, top sand 3,517 feet, initial production 100 bbls. per hour through three-fourths-inch tubing choke, total depth 3,540 feet.

Atlantic and Byrd-Frost's No. 4 Huey, location abandoned. W. J. Collins' No. 1 H. T. Elder, top sand 3,544 feet, initial production 70 bbls. per day through various chokes, total depth 3,618 feet. D. D. D. Oil Co.'s No. 1 E. S. Hagler, top sand 3,606 feet, initial production 100 bbls. per day through various chokes, total depth 3,615 feet. Magnolia Petroleum Co.'s No. 8 L. H. Griffin, top sand 3,581 feet, initial production 48 bbls. first five minutes through 4-inch line, total depth 3,604 feet; No. 1 John Redford, top sand 3,704 feet, initial production 128 bbls. first hour through three-fourths-inch tubing choke, total depth 3,707 feet.

Paul L. Meller's No. 1 L. Crim, top sand 3,542 feet, initial production 60 bbls. per hour through 1-inch tubing choke, total depth 3,574 feet. Mary Claire O'Connell's No. 1 Bean-Willoughby, top sand 3,538 feet, initial production 100 bbls. per hour through three-fourths-inch tubing choke, total depth 3,599 feet. Oriental Oil Co.'s No. 2 Alexander, top sand 3,535 feet, initial production 100 bbls. per day pinched through tubing, total depth 3,562 feet. Pelican Natural Gas Co.'s No. 3 Spear and Laird, top sand 3,630 feet, initial production 21 bbls. in 10 minutes through three-fourths-inch tubing choke, total depth 3,643 feet. Dearing and Wallace's (formerly Wallace and others') No. 1 fee, top sand 3,545 feet, initial production 100 bbls. per hour through open tubing, total depth 3,565 feet. Wells and Gann's No. 1 Charles, top sand 3,660 feet, initial production 90 bbls. per hour through open 2-inch tubing choke, total depth 3,663 feet.

Henderson County

J. M. Rogers' No. 1 M. N. Gassett, location abandoned.

Rusk County

Jackson-Wise and Markham's No. 2 C. O. Christian, top sand 3,715 feet, initial production 85 bbls. per hour through open tubing, total depth 3,726 feet. Magnolia Petroleum Co.'s No. 2 Jerninga, top sand 3,695 feet, initial production 53 bbls. first five minutes through 4-inch line on casing and 1-inch tubing choke, total depth 3,709 feet. Shell Petroleum Corp.'s No. 5 J. H. Spivey, top sand 3,678 feet, initial production 87 bbls. in one-half hour through open tubing, total depth 3,758 feet. Weaver-Crim's No. 1 J. N. Peterson, top sand 3,673 feet, initial production 100 bbls. per day pinched, total depth 3,677½ feet.

Arkansas Fuel Oil Co.'s No. 5 Beall, top sand 3,702 feet, initial production 140 bbls. per hour through open tubing, total depth 3,717 feet. No. 5 Wheelis, top sand 3,677 feet, initial production 85 bbls. per hour through open tubing, total depth 3,802 feet. Blackwell Oil & Gas Co.'s No. 4 Stone, top sand 3,638 feet, initial production 150 bbls. per hour through open tubing, total depth 3,662 feet. F. C. Clark's No. 1 A. Johnson, top sand 3,780 feet, initial production 75 bbls. in 50 minutes through 1-inch tubing choke, total depth 3,786 feet.

Deep Rock Oil Co.'s No. 4 Stovall, top sand 3,628 feet, initial production 85 bbls. per hour through open tubing, total depth 3,658 feet. Devonian Oil Co.'s No. 5 Alford, top sand 3,811 feet, initial production 30 bbls. in one-quarter hour through three-quarters-inch tubing choke, total depth 3,815 feet. Humble Oil & Refining Co.'s No. 7 W. L. Price, top sand 3,688 feet, initial production 54 bbls. in 30 minutes through three-quarters-inch tubing choke, total depth 3,740 feet; No. 1-B J. H. Selvey, top sand 3,667 feet, initial production 62 bbls. in 30 minutes through three-quarters-inch tubing choke, total depth 3,690 feet. Mid-Kansas Oil & Gas Co.'s No. 1 H. L. Griffin, top sand 3,690 feet, initial production 15 bbls. through open tubing, total depth 3,715 feet; No. 8 E. E. Moore, top sand 3,613 feet, initial production 160 bbls. per hour through open tubing, total depth 3,650 feet.

Moss and Urschel's No. 2 Deason, top sand 3,678 feet, initial production 80 bbls. per hour through pinched casing, total depth 3,728 feet. O'Donnell and others' No. 1 London School, top sand 3,740 feet, initial production 110 bbls. in one-half hour through open tubing, total depth 3,786 feet. Pansey Oil Co.'s No. 1 F. J. Cox, top sand 3,615 feet, initial production 45 bbls. per hour through open tubing, total depth 3,705 feet. R. M. V. Oil Co.'s No. 1 L. J. Pinkston, top sand 3,597 feet, initial production 85 bbls. per one-half hour through open tubing, total depth 3,629 feet.

Standard Pipe & Supply Co.'s No. 2 W. P. Brett, top sand 3,712 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,757 feet. Standard Oil & Gas Co. and Pure Oil Co.'s No. 1 R. J. Burton, top sand 3,633 feet, initial production 145 bbls. per hour through tubing, total depth 3,670 feet. The Texas Company's No. 1 Allen Kersh, top sand 3,618 feet, initial production 60 bbls. per hour through 2-inch tubing choke, open, total depth 3,624 feet. Tidal Oil Co.'s No. 5 Pinkston, top sand 3,688 feet, initial production 6,048 bbls. in 24 hours based on 15-minute gauges through open tubing, total depth 3,725 feet. Ward Oil Co.'s No. 4 Giles, top sand 3,682 feet, initial production 60 bbls. per hour through open tubing, total depth 3,715 feet.

Smith County

Big Indian Oil Co.'s No. 4 Wolford, top sand 3,727 feet, initial production 42 bbls. in 12 minutes through open tubing, total depth 3,737 feet. Carter and Owen's No. 1 W. R. Wolford, top sand 3,757 feet, initial production 80 bbls. in 30 minutes through open tubing, total depth 3,770 feet. Gant and Wegener's No. 1 Sebe Stone, top sand 3,855 feet, initial production 96 bbls. in 20 minutes through open casing, total depth 3,861 feet. Magnolia Petroleum Co.'s No. 1 J. R. Wright, top sand 3,708 feet, initial production 149 bbls. in one-quarter hour through 2-inch tubing and casing, total depth 3,770 feet. Sinclair Oil & Gas Co.'s No. 1 Amanda Wiley, top sand 3,845 feet, drilled to 3,893 feet, cemented up to 3,500 feet, then drilled out to 3,853 feet, initial production 100 bbls. per hour through open tubing, 36 per cent salt water.

Upshur County

Humble Oil & Refining Co.'s No. 1-B O'Byrne, top sand 3,657 feet, initial production 42 bbls. per hour through 1-inch tubing choke, total depth 3,677 feet. Jay and Kay's No. 2 Victory, top sand 3,674 feet, initial production 20 bbls. in 20 minutes through 1-inch tubing choke, total depth 3,690 feet. Galvey Oil Co.'s No. 1 Moore Heirs, top sand 3,690 feet, initial production 31 bbls. in 30 minutes through one-half-inch tubing choke, total depth 3,721 feet. Murray Tool & Supply Co.'s No. 1 A. J. Sanders, top sand 3,632 feet, initial production 110 bbls. per hour through 1-inch tubing choke, total depth 3,651 feet. O. W. Production Co.'s No. 1-C O. F. Smith, top sand 3,635 feet, initial production 110 bbls. per hour through open tubing, total depth 3,656 feet. W. H. Peckham and others' No. 2 T. Wells, top sand 3,744 feet, initial production 30 bbls. in one-quarter hour through 1-inch tubing choke, total depth 3,752 feet.

DAILY AVERAGE CRUDE OIL SHIPMENTS FROM EAST TEXAS

Week Ending January 11

Shipments Through Main Trunk Lines

Company, size, location—	Bbls.
Arkansas P. L., 8-in., Shreveport	10,567
Atlantic P. L., 10-in., Atreco	19,071
Atlas P. L., 8-in., Shreveport	1,467
Gulf P. L., 2-8-in., Oklahoma	19,257
Gulf P. L., 2-8-in., Port Arthur	14,723
Humble P. L., 2-10-in., Shreveport	33,247
Humble P. L., 2-8-in., Todd	27,774
Magnolia P. L., 10-in., Center	7,563
Magnolia P. L., 12-in., Corsicana	42,593
Shell P. L., 10-in., Houston	16,912
Sinclair-Texas P. L., 12-in., Teague	24,130
Sun-Yount Lee P. L., 10-in., Sun City	21,141
Texas P. L., 10-in., Douglass	20,353
Texas Empire P. L., 12-in., Pt. Arthur	28,353
Tidal Refining, 6-in., Carthage	6,289
Total	293,440

Shipments to Refineries

Arrow Refining Co., Overton	S.D.
Beacon Refining Co., Henderson	500
Boone Refining Co., Arp	348
Central Refining Co., Friars Switch	S.D.
Constantin Refining Co., Overton	S.D.
Diamond Refining Co., Overton	729
East Texas Ref. Co., Longview	3,446
East Texas Ref. Co., Friars Switch	3,196
Gladetex Refining Co., Gladewater	100
Gladewater Refining Co., Gladewater	220
Kilgore Refining Co., Kilgore	428
W. B. Mackey Ref. Co., Gladewater	400
Overton Refining Co., Overton	598
Petroleum Refractionating Co., Longview	S.D.
Sinclair Oil & Gas Co., Longview	1,049
Slack Refining Co., Camp Switch	S.D.
Southern Oil Ref. Co., Reed Switch	329
Taylor Refining Co., Tyler	2,404
Total	13,747

Shipments by Tank Car

Houston Oil Co. from Kilgore	548
Tidal Ref. Co. from Camp Switch	605
Tyler Pipe Line Co. from Tyler	765
Total	1,918
Total daily average distribution	309,105
Total daily average production	333,121
Daily average to storage	24,022

VALUABLE REPORT AVAILABLE

A report of considerable interest to oil field men, engineers, production superintendents, manufacturers and drilling contractors has been published by the American Society of Mechanical Engineers, covering the work of its special research committee on Rotary Drilling of Oil Wells, headed by David L. Trax, Gypsy Oil Co., Tulsa, and composed of Raymond Carr, Sinclair Oil & Gas Co., Tulsa; Prof. William H. Carson, University of Oklahoma, Norman, Okla.; R. R. Hawkins, The Texas Company, Tulsa; and Harold W. Manley, Barnsdall Oil Co., Tulsa.

This committee collected data on typical steam equipment used during the entire operation of drilling a deep well in Oklahoma City, Okla., to determine data on fuel, water and steam consumption; efficiencies, etc.; also on a turbine driven slush pump used on a well drilled at Perry, Okla.

Copies are now available from the American Society of Mechanical Engineers, 29 West Thirty-ninth Street, New York City, or from Harold Adkinson, secretary, Tulsa Building, Tulsa. The cost is 75 cents per copy.

DEATH OF JOSEPH L. PENNEY

Joseph Lewis Penney, one of the organizers and a director of Lucey Products Corp., active in the oil industry since 1919, died in Tulsa, January 16 of cerebral hemorrhage, just seven weeks after the death of his wife, Mabel Penney. The son of Capt. Fred and Mrs. Sarah Penney, he was born August 12, 1897, at Haverstraw, N. Y.

Funeral services will be held in the Chapel of Stanley-McCune Funeral Home January 21 at 2 o'clock.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINES

	Jan. 19		Jan. 12	
OKLAHOMA (Group 3)—				
*U. S. Motor	.03	.03½	.02¾	.03
60-62 400	.03¼	.03⅜	.03	.03¼
64-66 390	.03½	.03¾	.03¼	.03¾
64-66 375	.03¾	.04	.03⅝	.03⅞
68-70 350	.04	.04¼	.04	.04¼
NORTH TEXAS—				
*U. S. Motor	.02⅞	.03	.02¾	.03
60-62 400	.03¼	.03¼	.03	.03⅛
64-66 390	.03⅜	.03⅝	.03¼	.03¾
64-66 375	.03¾	.04	.03⅝	.03⅞
64-66 360	.04	.04⅛	.03⅞	.04⅛
‡NORTH LOUISIANA—				
*U. S. Motor	.03½		.03¼	.03½
60-62 400	.03⅝	.03¾	.03½	
‡ARKANSAS—				
*U. S. Motor	.03½		.03¼	.03½
CHICAGO Based on Okla. (Group 3)—				
*U. S. Motor	.02⅞	.03⅛	.02¾	.03
60-62 400	.03⅛	.03⅜	.03	.03¼
64-66 375	.03⅜	.03⅞	.03½	.03⅝
Aviation fighting grade	.04⅞	.05⅛	.04¾	.05¼
68-70 360	.03⅞	.04⅛	.03⅞	.04⅛

Octane Ratings—Above quotations cover price ranges on gasolines in which no octane rating is given. In the case of the U. S. Motor and 60-62 400 endpoint grades where an octane rating of 57-65, inclusive, is guaranteed, prices are one-fourth cent per gallon higher than quotations shown in above tables; where an octane rating of 65 or higher is guaranteed, the prices are one-half cent higher. In the case of the remaining grades, gasolines of 65 octane rating or higher are quoted one-fourth cent higher than the quotations shown in above tables. Unless otherwise provided by agreement of buyers and sellers, the Series 30 testing unit of the Ethyl Gasoline Corp. is recognized as standard in determining octane ratings.

*Present distillation specifications on U. S. Motor gasoline are: 10 per cent recovery, 167° F. maximum; 50 per cent, 284° F. maximum; 90 per cent, 392° F. maximum; residue not exceeding 2 per cent; maximum vapor pressure, 12 pounds. Additional specification on U. S. Motor gasoline available from bulletins of Bureau of Mines, Washington, D. C.

‡For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (Inland refineries)—				
U. S. Motor	.04¼	.04½	.04½	
60-62 400	.04½	.04¾	.04½	.04¾
64-66 375	.04¾	.05	.04¾	.05
68-70 350	.05½		.05½	

Note—In the case of U. S. Motor and 60-62 400 endpoint grades, same price differentials based on octane ratings as shown in above tables for Oklahoma and other Mid-Continent areas.

CALIFORNIA (domestic movement only)—				
54-58 U. S. Motor	.05¾	.06½	.06	.06½
58-60 400	.06½	.07	.06½	.07
NEW YORK (Bayonne, N. J.)—				
U. S. Motor, below 65 octane number	.05¾		.05¾	
U. S. Motor, min. 65 octane	.06		.06	.06½

NAPHTHAS

OKLAHOMA (Group 3)—	Jan. 19		Jan. 12	
50-52 450 (blending)	.02¾		.02⅝	.02¾
PENNSYLVANIA—				
50-54 430-450 (blending)	.04¼		.04½	
ARKANSAS—				
48-50 450 (blending)	.03		.02¾	
CHICAGO Based on Okla. (Group 3)—				
50-52 450 (blending)	.02⅝	.02⅞	.02⅝	.02⅞
Cleaners' naphtha, 56-58 gr. 200 i.b.p.-320 e.p.	.05⅝	.05⅞	.05⅝	.05⅞
Lacquer diluent, 180 i.b.p.-250 e.p.	.08⅝	.08⅞	.08⅝	.08⅞
Lacquer diluent, 140 i.b.p.-200 e.p.	.08⅞	.09⅛	.08⅞	.09⅛
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.05⅝	.06⅛	.05⅝	.06⅛
Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash	.04⅞	.05⅛	.04⅞	.05⅛
Pet. thinner, 290, 300 i.b.p.-415 e.p., over 83° flash	.04⅜	.04⅝	.04⅜	.04⅝
V.M.&P. naphtha, 56-58 gr., 190, 200 i.b.p.-330 e.p.	.05¼	.05½	.05¼	.05¼
Petroleum spirits	.04	.04½	.04	.04½

NATURAL GASOLINES

OKLAHOMA (Group 3)—	Jan. 19		Jan. 12	
Grade 26-70	.02¼		.02	.02¼
NORTH TEXAS—				
Grade 26-70	.02⅛	.02¼	.01⅞	.02
NORTH LOUISIANA—				
Grade 26-70	.02⅜		.02¼	
CALIFORNIA—				
75-78 375	.05¼	.06¼	.05¼	.06¼

Note—Grade 26-70 is one of the 24 grades adopted by the Natural Gasoline Association of America which became finally effective January 1, 1932. For this grade the vapor pressure is 22-26 pounds (Reid method) and 70 to 85 per cent evaporated at 140° F. Additional grades will be quoted weekly later if desired by buyers and sellers. See page 74 of January 7 issue for explanation of new grading system.

KEROSENES

(All kerosenes water white.)

	Jan. 19		Jan. 12	
OKLAHOMA (Group 3)—				
41-43	.02⅝	.02¾	.02½	.02⅝
42-44	.02¾	.02⅞	.02⅝	.02¾
NORTH TEXAS—				
40-41	.02½		.02⅜	
41-43	.02⅝		.02½	
‡NORTH LOUISIANA—				
41-43	.03	.03½	.03	.03¼
42-44	.03¼	.03⅜	.03¼	.03⅜
‡ARKANSAS—				
41-43	.03	.03¼	.03	.03¼
PENNSYLVANIA—				
45	.04⅜	.04½	.04⅜	
46	.04½	.04⅝	.04½	
47	.04⅝	.04¾	.04⅝	
CHICAGO (Based on Group 3)—				
41-43	.02⅝	.02¾	.02½	.02⅝
42-44	.02¾	.03	.02⅝	.02¾
***CALIFORNIA—**				
38-40 high burning test	.04	.05	.04¼	.05¼
NEW YORK (Bayonne, N. J.)—				
41-43 .†	.06		.06	

*For Pacific Coast consumption.

‡For Arkansas, Louisiana and Mississippi delivery.

TRACTOR FUELS*

	Jan. 19		Jan. 12	
OKLAHOMA (Group 3)—				
39-41 prime white	.02¼	.02⅜	.02⅛	.02¼
38-40 light straw	.02	.02⅛	.01⅞	.02⅛
NORTH TEXAS—				
38-40 light straw	.02⅛	.02¼	.01⅞	.02
CHICAGO—				
38-40 light straw	.02⅛	.02¼	.01⅞	.02⅛
PENNSYLVANIA—				
41-43 prime white	.04¼		.04¼	

*There are no standard specifications for tractor fuels. Grades commonly sold have flash under 175° F. (open cup) and under 575° F. endpoint and less than .2 per cent sulphur. Tractor fuels are available from all Mid-Continent refining groups at prices in line with the Oklahoma market taking into considerations differentials in freight rates.

FURNACE OILS*

	Jan. 19		Jan. 12	
OKLAHOMA (Group 3)—				
32-36 straw	.01¾	.02	.01¾	.01⅞
36-38 straw	.01⅞	.02⅛	.01¾	.02
38-40 straw	.02	.02⅛	.01⅞	.02⅛
39-41 prime white	.02⅛	.02¼	.02	.02⅛
NORTH TEXAS—				
38-40 straw	.02	.02⅛	.01⅞	.02
‡NORTH LOUISIANA—				
36-40	.02½		.02⅜	.02½
‡ARKANSAS—				
32-36	.02⅜	.02½	.02¼	.02⅜
CHICAGO—				
32-36 straw	.01⅞	.02⅛	.01¾	.01⅞
38-40 straw	.02⅛	.02¼	.02	.02⅛
PENNSYLVANIA—				
40-41 prime white	.03½		.03¼	.03½
NEW YORK (Bayonne)—				
32-36	.03½		.03½	
36-40	.03¾		.03¾	

*Above prices based on furnace oils of zero cold test, under 190° F. flash and good odor.

‡For Arkansas, Louisiana and Mississippi delivery.

GAS OIL, DIESEL OIL AND FUEL OIL

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

	Jan. 19		Jan. 12	
OKLAHOMA (Group 3)—				
32-36 (G.O.) cracking stock	.01¼		.01¼	
U.G.I. (G.O.)	.01¼	.01⅜	.01¼	.01⅜
32-36, zero to 15	.01⅜	.01½	.01¼	.01⅜
28-30, zero to 10	.45	.50	.45	.50
26-30, zero to 10	.40	.50	.40	.50
24-26	.35	.40	.35	.40
20-22	.27½	.35	.27½	.35
16-20	.25	.30	.25	.30
Below 16	.22½	.27½	.22½	.27½
NORTH TEXAS—				
32-36 (G.O.) industrial	.01¼		.01¼	
22-26	.40	.45	.40	.45
Below 20	.35	.40	.35	.40
‡NORTH LOUISIANA—				
30-32 (G.O.) zero	.02⅛	.02¼	.02	.02¼
18-22	.35	.50	.35	.50
‡ARKANSAS—				
28-32 (G.O.) zero	.55	.60	.55	.60
16-20	.40	.50	.40	.50
CHICAGO—				
32-36 (G.O.) industrial	.01⅜	.01½	.01¼	.01½
28-30 (zero)	.50	.60	.50	.60
22-26	.32½	.37½	.30	.37½
18-22	.25	.30	.25	.30
Below 18	.20	.25	.20	.25

Note—Fuel oils of more than 40 cold test generally 5 to 10 cents per barrel less in all areas than shown in above tables.

‡For Louisiana, Arkansas and Mississippi delivery.

CALIFORNIA—				
30-34 (G.O.) per bbl.	.95	1.10	.85	1.05
27 plus Diesel	.85	1.00	.80	.95
15-19 bunker (at tidewater)	.60	.80	.60	.80
15-19 bunker (cargo lots)	.55	.75	.55	.75
15-19 (tank cars)	.40	.55	.40	.55
GULF COAST—				
28-30 (G.O.)	.02½	.02⅝	.02½	.02⅝
Bunker C (cargo lots)	.40	.50	.40	.50
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.03½	.04	.03½	.04
28-30 Diesel	1.30		1.30	
Bunker C	.60		.60	

NEUTRAL OILS

(Viscosity at 100° F., and Color)

	Jan. 19		Jan. 12	
OKLAHOMA (Group 3)—				
Zero to 10 Cold Test:				
150-3	.06¼	.06½	.06¼	.06½
180-3	.07¾	.08	.07¾	.08
180-4	.07¼	.07½	.07¼	.08½
200-3	.08½	.09	.08½	.09
200-4	.08¼	.08½	.08¼	.08½
240-3	.10¼	.10½	.10¼	.10½
240-4	.09½	.09¾	.09½	.09¾
280-3	.11¾	.12	.11¾	.12
280-4	.10¾	.11	.10¾	.11
300-3.5	.12¼	.12½	.12¼	.12½
350-3.5	.12¾	.13	.12¾	.13
400-4	.13¼	.13½	.13¼	.13½
500-4.5	.13¾	.14	.13¾	.14
100-2 paraffin oil	.04¼	.04½	.04¼	.04½
15-30 Cold Test:				
200-3	.08¼	.08½	.08¼	.08½
200-4	.07¾	.08	.07¾	.08
240-3	.09¾	.10	.09¾	.10
240-4	.09	.09¼	.09	.09¼
280-3	.11¼	.11½	.11¼	.11½
280-4	.10¼	.10½	.10¼	.10½
PENNSYLVANIA—				
Viscosity at 70° F., and Color:				
150-3	.13½	.14	.14	.15
180-3	.17	.18	.18	.18½
200-3	.18	.18½	.19	.19½
220-3	.20½	.21	.20½	.21
36 Miners Neutral	.05½		.05½	
34 Neutral	.05½		.05½	
34 Sundebloom Neutral	.05		.05	
GULF COAST—				
Pale Oils:				
100-2-2½	.05	.05½	.05	.05½
200-3	.07	.07½	.07	.07½
300-3	.07¾	.08	.07¾	.08
500-3½	.09	.09½	.09	.09½
750-3½	.10	.10¼	.10	.10¼
1,200-3½	.12	.12¼	.12	.12¼
2,000-4	.14	.14½	.14	.14½
Red Oils:				
200-5-6	.06	.06¼	.06	.06¼
300-5-6	.06¾	.07	.06¾	.07
500-5-6	.08	.08¼	.08	.08¼
1,200-5-6	.11	.11¼	.11	.11¼
2,000-6 plus	.13	.13¼	.13	.13¼
CALIFORNIA—				
130-2½-3	.08¼	.08¾	.08¼	.08¾
200-2½-3	.09¼	.10¼	.09¼	.10¼
300-3-3½	.10¼	.11¼	.10¼	.11¼
350-3½-4	.11¼	.12	.11¼	.12
450-3½-4	.12	.12¾	.12	.12¾
550-3½-4	.12¾	.13¾	.12¾	.13¾
200-4½-5	.09¼	.10¼	.09¾	.10¼
300-5-6	.10½	.11	.10½	.11
400-5-6	.11½	.12½	.11½	.12½
500-5-6	.12¾	.13½	.12¾	.13¾
600-5-6½	.13½	.14¼	.13½	.14¼
700-6½ plus	.14½	.15¼	.14½	.15¼
NEW YORK (Bayonne, N. J.)—				
Paraffin Oil:				
25 pale	.10¼		.10¼	
28 pale	.07¼		.07¼	
280 red	.12½		.12½	
250 red	.11½		.11½	
225 red	.10		.10	
200 red	.09¼		.09¼	

BRIGHT STOCKS AND STEAM REFINED STOCKS

	Jan. 19		Jan. 12	
OKLAHOMA (Group 3)—				
600 light green S.R.	.04	.06	.04	.06
600 dark green S.R.	.03½	.05	.03½	.05
Bright Stock:				
190-200 D	.19	.20	.19	.20
150-160 D, 0-10	.17½	.18	.17½	.18
150-160 D, 10-25	.17	.17½	.17	.17½
150-160 D, 25-40	.16½	.17	.16½	.17
150-160 E	.16½		.16½	
PENNSYLVANIA—				
600 S.R.	.11	.11½	.11	.11½
650 S.R.	.13¾	.14	.13¾	.14½
600 Pennsylvania flash	.15	.16	.15	.16
600 E filtered	.14	.15	.14	.15
600 D filtered	.17½	.18	.18	.19
Pennsylvania Grade Bright Stock:				
10-15 pour test	.19	.20	.19	.20
25-30 pour test	.19		.19	
35 and above	.18½	.19	.18½	.19

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

WAX AND PETROLATUM

(Prices per pound.)

	Jan. 19		Jan. 12	
OKLAHOMA (Group 3)—				
124-126 white crude scale..	.01⅝	.01¾	.01⅝	.01¾
PENNSYLVANIA—				
At New York:				
122-124	.02⅛		.02⅛	
124-126	.02⅛		.02⅛	
NEW YORK (Bayonne, N. J.)—				
Refined Wax:				
120-122	.02¾		.02¾	
125-127	.02⅞		.02⅞	
130-132	.03⅛		.03⅛	
133-135	.03⅞	.04	.03⅞	.04
135-137	.04¼		.04¼	
Petrolatum in barrels in carload lots:				
Dark green	.01¾		.01¾	
Amber	.02¼		.02¼	
Extra amber	.02¾		.02¾	
Cream	.04½		.04½	
Lily white	.05½		.05½	
Snow white	.06⅜		.06⅜	

EXPORT PRICES

GASOLINE

GULF COAST—	Jan. 19		Jan.12	
U. S. Motor	.04½		.04½	.04¾
60-62 400 endpoint	.04⅝		.04⅝	.04½
61-63 390 endpoint	.04⅝		.04⅝	.04⅞
64-66 375 endpoint	.04¾	.05	.04⅝	.05
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p...	.04	.04½	.04	.04½
U. S. Motor, 65 octane num.	.05		.05	
U. S. Motor, 67 octane num.	.05¼		.05¼	
U. S. Motor, 69 octane num.	.05½		.05½	
58-62 400 endpoint gasoline.	.04½	.05	.04¼	.05

KEROSENE

GULF COAST—				
41-43 prime white	.04¼		.04	
41 water white	.04½		.04¼	
LOS ANGELES, CALIF.—				
41-43 water white	.04	.04¾	.04	.04¾

LUBRICANTS

NEW YORK (Bayonne, N. J.)—				
600, steam refined cylinder stocks, in bbls.	.19	.20	.19	.20
650, steam refined	.22	.23	.22	.23
600, Pennsylvania flash	.24	.25	.24	.25
630, Pennsylvania flash	.27	.28	.27	.28
600, Warren E	.22½	.23	.22½	.23
600, Oil City E	.21½	.22	.21½	.22
Light 140-150 Bright Stocks	.27	.28	.29	.30
Dark 140-150 Bright Stocks	.26	.27	.28	.29

CALIFORNIA CRUDE OIL PRICES

STANDARD OIL CO. OF CALIFORNIA

For its current purchases of crude oil at the well (unless otherwise specified) the allowable crude oil produced in accordance with allocations made by the California Statewide Curtailment Committee. All gravities above those quoted take highest price offered in that field. Effective June 19, 1931 at 7 a.m.

Gravity	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea, Canon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills
14-14.9	$.65	$ 65	$.65	$.65	$.65	$.65	$.65	$ 65	...	$.55	$.55
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
20-20.9	.65	.65	.65	.66	.66	.65	.65	.65	...	.55	.55
21-21.9	.65	.65	.65	.68	.67	.65	.66	.65	...	.55	.57
22-22.9	.65	.65	.66	.70	.68	.66	.68	.65	...	.56	.59
23-23.9	.67	.67	.68	.72	.70	.67	.70	.66	...	.58	.60
24-24.9	.69	.69	.70	.74	.72	.68	.72	67	$ 65	.61	.62
25-25.9	.71	.71	.72	.76	.74	.70	.74	.69	.65	.64	.64
26-26.9	.73	.73	.74	...	.76	...	...	.71	.65	.66	.65
27-27.9	.75	.75	.76	...	.78	...	...	.73	.68	.68	.67
28-28.9	.77	...	...	...	.80	...	...	.75	.71	.71	.69
29-29.9	.79	...	...	...	...	...	...	.77	.73	.74	.71
30-30.9	.81	...	...	...	...	...	...	.79	.75	.76	.73
31-31.9	...	...	...	...	...	...	...	...	.78	...	...
32-32.9	...	...	...	...	...	...	...	...	.80	...	...
33-33.9	...	...	...	...	...	...	...	...	.83	...	...
34-34.9	...	...	...	...	...	...	...	...	.85	...	...
35-35.9	...	...	...	...	...	...	...	...	.87	...	...

Standard Oil Co. of California prices in other fields:

Wheeler Ridge—55 cents per barrel for all grades (14° to 25.9°).

Coalinga—55 cents for all grades from 14° to 24-24.9°; 57 cents for 25 gravity.

Newhall, McKittrick and Kern River—55 cents for all grades (14° to 19.9°).

Montebello—65 cents for all grades (14° to 25.9°).

Whittier and LaHabra—65 cents for all grades (14° to 22.9°).

Elwood Terrace, f.o.b. ship—33° to 33.9°, 79 cents; 34° to 34.9°, 81 cents; 35° to 35.9°, 84 cents; 36° and above, 87 cents.

Playa Del Rey—Prices subject to field gathering charge of 5 cents per barrel—19° to 19.9°, 65 cents; 20° to 20.9°, 65 cents; 21° to 21.9°, 66 cents; 22° to 22.9°, 67 cents; 23° to 23.9°, 68 cents; 24° to 24.9°, 67 cents; 25° and above, 68 cents.

(Continued on Page 88)

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

East Texas (Nov. 2, 1931)†.....$ .83
Corsicana heavy (Nov. 2, 1931)*..... .49
Other fields.....**See gravity table**

†Posted by Panola Pipe Line Co., Magnolia Petroleum Co., Tidal Refining Co., Sinclair Refining Co., Gulf Pipe Line Co., Atlas Pipe Line Co. *Magnolia Petroleum Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective December 16, 1931)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field) $1.85
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.55
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia) 1.45
Penna Grade Oil in Buckeye Pipe Line Lines 1.25
Corning Grade Oil in Buckeye Pipe Line Co.'s line (Nov. 9, 1931) ..... .85
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 16, 1931).... .80
Wayne district Oil in Cumberland Pipe Lines (April 23, 1931) 1.17

Tide Water Pipe Co.
(Effective December 16, 1931)

Bradford, Pa. $1.85
Allegany, N. Y. 1.85

Pure Oil Co.
(Effective December 16, 1931)

Cabin Creek, W. Va. $1.45
Bradford Hollow, W. Va. 1.45
Kelly's Creek, W. Va. 1.45

Pennzoil Co.
(Effective December 16, 1931)

Pennsylvania Grade Oil in National Transit Lines:
Group A $1.80
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B $1.79
Includes Titusville district.
Group C $1.78
Includes Turkey and Tidiout districts.
Group D $1.77
Includes Bear Creek and Porkey districts.
Group E $1.75
Includes Eldenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties....**See gravity table**

WEST TEXAS

Iatan and Westbrook..Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Ector, Winkler and Pecos Counties* .....$ .50
Lea County, N. Mex.‡ ..... .50
Toborg, Pecos County, Aug. 25, 1931†. .25
*The Texas Company, November 2, 1931; Magnolia Petroleum Co., Humble Oil & Refining Co., Gulf Pipe Line Co., same day. †Shell Petroleum Corp. ‡Humble Oil & Refining Co., The Texas Company, November 2, 1931.

GULF COAST

Grade A and Grade B classifications discontinued by leading buyers.....
.....**See gravity table**
Jenningş, La. (Nov. 2, 1931)*.....$ .65
Lockport, La. (Aug. 27, 1931)†.....
.....**See Gulf Coast gravity table**
Refugio light.....**See gravity table**
Refugio heavy (Nov. 2, 1931)‡..... .75
Markham (Nov. 2, 1931)§..... .67
High Island (Nov. 2, 1931)‖..... .65
*Gulf Refining Co. †Vacuum Oil Co. ‡Humble Oil & Refining Co. §The Texas Company. ‖Gulf Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles, light (Aug. 24, 1931).....$ .75
Iles, heavy (Aug. 24, 1931)..... .53
Fort Collins (Nov. 3, 1931)..... .71
Florence (Nov. 2, 1931)..... .65
Wellington (Nov. 3, 1931)..... .63
Dutton Creek (Nov. 3, 1931)..... .75
Rock Creek, Wyo. (Nov. 3, 1931)..... .83
Frannie, light (Nov. 3, 1931)..... .63
Frannie, heavy (Nov. 3, 1931)..... .53
Salt Creek.....Mid-Continent gravity table
Big Muddy (Nov. 3, 1931)..... .83
Grass Creek (Nov. 3, 1931)..... 1.08
Elk Basin (Nov. 3, 1931)..... 1.08
Lance Creek (Aug. 24, 1931)..... 1.08
Poison Spider (Mar. 5, 1931)..... .70
Notches (Mar. 14, 1927)..... .83
Hudson (June 2, 1931)..... .89
Lander (Mar. 5, 1931)..... .40
Rex Lake (Feb. 22, 1930)..... 1.10
Osage (Apr. 15, 1931)..... .95
Lost Soldier (Nov. 3, 1931)..... .89
Hamilton Dome (Nov. 3, 1931)..... .40
Greybull (Nov. 3, 1931)..... 1.08
Cat Creek (Nov. 3, 1931)..... 1.08
Pondera (Nov. 3, 1931)..... .90
Sunburst, Mont. (Nov. 3, 1931)..... 1.00
Hogback, N. Mex. (Aug. 24, 1931).... .80
Lea County, N. Mex. (Nov. 3, 1931).. .50
Border, Mont. 1.55
Red Coulee, Alberta 1.55
Dry Creek, Mont. (Aug. 24, 1931)..... 1.00
Maljamar (Aug. 22, 1931)..... 1.00
Artesia-Jackson (Nov. 3, 1931)..... .50

Note—Salt Creek, Cat Creek, Dry Creek Dallas-Derby, Hudson, Greybull and Hogback posted by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.

NORTH LOUISIANA AND ARKANSAS

Smackover, Ark. (all grades) (Nov. 4, 1931) .....$ .55
Urbana, Ark. .....**See note below**
Bellevue, La. (June 3, 1931)..... .25
Urania, La. (Nov. 2, 1931)..... .50
Calion, Ark. (Aug. 22, 1931)..... .52
East El Dorado, Ark. (Nov. 4, 1931)... .55

(Continued on Page 78)

CRUDE OIL GRAVITY TABLE

Gravity	1 Kansas and Oklahoma	2 North and Central Texas	3 East Central Texas	4 Gray County, Texas	5 Carson and Hutchinson Counties, Texas	6 Salt Creek, Wyo.	7 North Louisiana and Arkansas	8 Gulf Coast (Tex. and La.)	9 Cameron Meadows, La.
Below 25 degrees	...	...	...	...	...	...	...	$.70	$.60
25-25.9 degrees	...	...	...	...	...	...	...	.71	.60
26-26.9 degrees	...	...	...	...	...	...	...	.72	.61
27-27.9 degrees	...	...	...	...	...	...	...	.73	.62
28-28.9 degrees	...	...	...	...	...	...	...	.74	.63
Below 29 degrees	$.61	$.61	$.61	...	...	$.61	$.61	...	...
29-29.9 degrees	.63	.63	.63	...	...	.63	.63	.75	.64
30-30.9 degrees	.65	.65	.65	...	...	.65	.65	.76	.65
31-31.9 degrees	.67	.67	.67	...	...	.67	.67	.77	.66
32-32.9 degrees	.69	.69	.69	...	...	.69	.69	.78	.67
33-33.9 degrees	.71	.71	.71	...	...	.71	.71	.79	.68
34-34.9 degrees	.73	.73	.73	$.61	$.56	.73	.73	.80	.69
35-35.9 degrees	.75	.75	.75	.63	.58	.75	.75	.81	.70
36-36.9 degrees	.77	.77	.77	.65	.60	.77	.77	.82	.71
37-37.9 degrees	.79	.79	.79	.67	.62	.79	.79	.83	.73
38-38.9 degrees	.81	.81	.81	.69	.64	.79	.81	.84	.73
39-39.9 degrees	.83	.83	.83	.71	.66	.79	.83	.85	.74
40 degrees and over	.85	.85	.85	.73	.68	.79	.85	.86	.75

Column 1—Led by Continental Oil Co. effective November 2, 1931, and adopted on same day by other companies excepting Magnolia Petroleum Co. and White Eagle Oil Corp. and excepting that Carter Oil Co., Gypsy Oil Co., and Pure Oil Co. started their schedule at below 25 degrees, 53 cents; 25 degrees, 55 cents; with 2 cents added for each degree upward to 40 degrees and above at 85 cents. Magnolia Petroleum Co. adopted the price schedule in Oklahoma on January 8, 1932, and the White Eagle Oil Corp. in Kansas on January 1, 1932, on oil from 29 degrees upward, but posted 52 cents for oil below 28 gravity and 54 cents for 28 gravity.

Column 2—Led by Continental Oil Co. effective November 2, 1931, and followed by other purchasers on same day excepting Magnolia Petroleum Co. which met the prices on January 8, 1932, from 29 degrees upward, posting 52 cents for oil below 28 degrees and 54 cents for 28 gravity oil.

Column 3—Humble Oil & Refining Co. on November 2, and by other buyers excepting Magnolia Petroleum Co., which met the prices from 29 degrees upward on January 8, 1932, but posted 52 cents for oil below 28 degrees and 54 cents for 28 gravity oil.

Column 4—Led by The Texas Company, November 2, followed by Humble Oil & Refining Co., Gulf Pipe Line Co. and H. F. Wilcox Oil & Gas Co. same day. Magnolia Petroleum Co., January 8, 1932.

Column 5—Led by The Texas Company, November 2, followed on same day by Humble Oil & Refining Co. and Gulf Pipe Line Co. Magnolia Petroleum Co., January 8, 1932.

Column 6—Midwest Refining Co., November 2.

Column 7—Standard Oil Co. of Louisiana, November 4, 1931; The Texas Company, Gulf Refining Co. and Louisiana Oil Refining Co. same day. Magnolia Petroleum Co., January 8, 1932.

Column 8—Led by The Texas Company, November 2, followed on same day by Humble Oil & Refining Co., Vacuum Oil Co., Gulf Pipe Line Co. and Sun Oil Co., but two last named companies' schedules stop at 35 degrees and above at 81 cents, and the Sinclair Refining Co., but latter company's schedule stops at 31 degrees and above at 71 cents. Magnolia Petroleum Co. applied this schedule to Lockport and Iowa, La.

Column 9—Magnolia Petroleum Co., January 8, 1932.

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Jan. 19.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago	15.0	15.0	3.0	9.0
Decatur, Ill.	15.5	15.5	3.0	9.1
E. St. Louis	14.8	13.8	3.0	8.8
Joliet	15.5	15.5	3.0	9.1
Peoria	15.5	15.5	3.0	9.1
Quincy	15.3	15.3	3.0	8.9
Davenport, Ia.	15.6	13.0	3.0	9.4
Des Moines	13.0	13.0	3.0	8.1
Keokuk	15.6	15.6	3.0	6.4
Sioux City	15.2	15.2	3.0	9.0
Duluth, Minn.	16.6	16.6	3.0	10.0
Mankato	16.2	16.2	3.0	8.1
Minneapolis	14.5	14.5	3.0	10.0
LaCrosse, Wis.	17.3	17.3	4.0	10.1
Milwaukee	16.2	16.2	4.0	9.0
Madison	16.4	16.4	4.0	9.2
Detroit, Mich.	14.5	14.5	3.0	9.1
Grand Rapids	15.3	15.3	3.0	10.7
Saginaw	13.2	13.2	3.0	10.9
Evansville, Ind.	16.2	16.2	4.0	10.0
Indianapolis	16.4	16.4	4.0	10.2
South Bend	16.5	16.5	4.0	8.1
Fargo, N. D.	18.0	18.0	3.0	12.0
Huron, S. D.	17.4	17.4	4.0	10.8
Sioux Falls	16.9	16.9	4.0	10.5
K. C., Mo.	15.0	15.0	3.0	7.9
Springfield*	15.0	15.0	3.0	8.6
St. Louis*	14.0	14.0	3.5	8.4
St. Joseph	10.5	10.5	3.0	7.6
Wichita, Kans.	13.9	13.9	3.0	6.1
Bartlesville, Ok.	13.1	15.1	4.0	7.1

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 1½ cents or more below the price on the regular grade.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective April 15—Discounts on C.D.A. on 1,000 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	15.0	16.0	4.0	8.0
Fort Worth	15.0	16.0	4.0	7.0
Houston	14.0	16.0	4.0	8.0
San Antonio	14.0	16.0	4.0	7.0
El Paso	16.0	18.0	4.0	10.0
Texarkana	14.0	16.0	4.0	8.0
Muskogee, Ok.	13 0	14.0	4.0	6.0
Okla. City	15.0	17.0	4.0	7.0
Tulsa	15.0	17.0	4.0	8.0
Ft. Smith, Ark.	*17.5	18.0	5.0	*11.0
Little Rock	*18.5	18.0	6.0	*11.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

*Less 2 cents to dealers.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	12.0	15.0	4.0	12.5
Pueblo	12.0	15.0	4.0	12.0
Grand Jctn.	18.0	21.5	4.0	14.5
Casper, Wyo.	15.0	18.0	4.0	10.0
Cheyenne	†14.0	14.0	4.0	11.5
Butte, Mont.	17.0	20.0	5.0	16.4
Billings	20.0	23.0	5.0	14.5
Great Falls	21.0	23.0	5.0	16.0
Helena	20.0	23.0	5.0	16.0
Salt Lake, Utah	17.5	20.5	4.0	16.0
Albu'que, N. M.	18.0	21.0	6.0	14.0
Boise, Idaho	21.0	24.0	5.0	18.0
Twin Falls*	20.5	20.0	5.0	18.0

*2½-cent discount off tank wagon to dealers.

†3-cent discount off tank wagon to dealers

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points	15.5	16.0	4.0	*12.0

Dealers and commercial accounts 2 cents under tank wagon.

*Service station price 13 cents

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	15.0	16.0	3.0	11.0
Philadelphia	14.0	15.0	3.0	11.0
Scranton	15.0	16.0	3.0	11.0
Allentown	15.0	16.0	3.0	11.0
Altoona	15.0	16.0	3.0	11.0
Erie	15.0	16.0	3.0	11.0
Dover, Del.	15.0	16.0	3.0	11.0
Wilmington	15.0	16.0	3.0	11.0
Springf'd, Mass.	14 5	15 5	3.0	8.5
Worcester	14.3	15.3	3.0	8.5
Boston	13.5	14.5	3.0	9.5
Providence, R.I.	12.5	13.5	2.0	8.5
Hartford, Conn.	14.5	15.5	2.0	10.0
New Haven	14.6	15.6	2.0	10.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.*	19.5	19.5	6.0	10.5
Augusta	20.0	21.0	6.0	14.0
Macon	20.0	20.0	6.0	12.9
Savannah	19.0	19.0	6.0	13.0
Birm,ham, Ala.	20.5	20.5	6.0	10.0
Mobile	20.0	20.0	5.0	10.0
Montgomery	21.5	21.5	6.0	13.5
Jackson, Miss.	15.5	15.5	5.5	11.5
Vicksburg	18.0	16.5	5.5	8.0
Jack'ville, Fla.	19.0	19.0	7.0	11.0
Miami	21.0	22.0	7.0	13.0
Pensacola	20.0	20.0	7.0	13.0
Tampa	19.0	19.0	7.0	13.0
Lexington, Ky.	17.0	18.0	5.0	13.0
Covington	18.0	19.0	5.0	13.0
Louisville	16.0	17.0	5.0	11.0
Corbin	18.0	19.0	5.0	15.0

A third grade "Kyso Green," is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 3 cents. To Mobile state tax add 1-cent city tax and 2½ cents county tax.

Effective April 2 price to dealers 2 cents under posted tank wagon price.

*An additional discount of 1 cent is offered to dealers here effective October 6.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atl'tic City, N.J.	15.7	16.7	2.0	11.5
Newark	14.7	15.7	2.0	10.5
Annapolis, Md.	16.2	17.2	4.0	10.0
Baltimore	15.4	16.4	4.0	8.0
Cumberland	17.2	18.2	4.0	12.0
Wash'g'n, D. C.	13.9	14.9	2.0	10.7
Danville, Va.	18.0	19.0	5.0	11.8
Norfolk	16.5	17.5	5.0	10.3
Petersburg	17.5	18.5	5.0	11.3
Richmond	16.5	17.5	5.0	10.7
Roanoke	18 2	19.2	5.0	12.0
Charles'n, W.Va.	16.7	17.7	4.0	11.5
Parkersburg	15.4	16.4	4.0	10.2
Wheeling	16.6	17.6	4.0	11.4
Charlotte, N. C.	17.5	17.0	6.0	10.7
Hickory	19.8	20.8	6.0	12.6
Mt. Airy	19.7	20.7	6.0	12.5
Raleigh	19.4	20.4	6.0	12.2
Salisbury	19.7	20.7	6.0	12.5
Charleston, S.C.	18.5	18.5	6.0	10.3
Columbia	19.4	20.4	6.0	12.3
Spartanburg	19.7	20.7	6.0	12.5

Two cents per gallon discount off retail tank wagon price of gasoline to dealers except Washington, D. C., and States of Maryland and New Jersey, where discount is 3 cents.

Prices shown above are for standard gasoline.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	16.6	17.6	2.0	15.6
New York*	12.3	14.3	2.0	14.3
Buffalo	15.8	15.8	2.0	14.8
Rochester	16.0	16.0	2.0	14.0
Syracuse	16.8	16.8	2.0	14.8
Boston, Mass.	16.5	16.5	3.0	13.5
Augusta, Me.	18.8	18.8	4.0	14.8
Manch'tr, N. H.	18.4	18.4	4.0	14.0
Burlington, Vt.	19.3	19.3	4.0	15.3

*Prices in steel barrels.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	14.9	15.9	4.0	9.25
McCook	17.0	17.0	4.0	7.5
Norfolk	16.75	17.75	4.0	9.75
N. Platte	17.75	18.75	4.0	10.50
Scottsbluff	17.0	17.0	4.0	9.0

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

PACIFIC COAST TERRITORY

Standard Oil Co. of California

	Gasoline			Kero.
	Tank truck	Posted retail	Incl'ds tax of	tank wagon
Fresno	13.5	16.5	3.0	17.0
San Francisco	13.5	16.5	3.0	15.5
Los Angeles	12.0	16.0	3.0	15.5
Reno, Nev.	16.0	20.0	4.0	19.0
Portland, Ore.	14.0	18.0	4.0	16.5
Seattle, Wash.	15.0	19.0	5.0	16.5
Tacoma	15.0	19.0	5.0	16.5
Spokane	18.5	22.5	5.0	20.5
Pheonix, Ariz.	14.5	17.0	5.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.	15.5	15.5	6.0	10.0
Baton Rouge	17.0	17.0	5.0	12.0
Alexandria†	14.5	14.5	6.0	12.0
Lafayette*	18.0	18.0	6.0	12.0
Lake Charles*	16.5	16.5	6.0	12.0
Shreveport	17.0	17.0	5.0	12.0
Knoxville, Tenn.	21.5	21.5	7.0	13.5
Memphis	17.5	17.5	7.0	11.0
Chattanooga	20.0	21.0	7.0	11.0
Nashville	20.0	20.5	7.0	12.5
Bristol	20.0	20.0	7.0	14.0
Lt. Rock, Ark.	18.0	18.0	6.0	11.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

Two-cent discount off gasoline and kerosene tank wagon price to dealer and commercial accounts.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	10.7	6.23
V.M.P. naphtha	12.7	7.73
Cleaners' naphtha	15.2	9.23
Stanisol	15.2	9.23

Tank wagon prices f.o.b. Chicago January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

STANOLIND FURNACE OIL IN CHICAGO

Effective July 1, prices f.o.b. Chicago, tank wagon prices: 1 to 99 gallons, 8 cents; 100 gallons or more, 6 cents.

Stanolex Fuel

Effective May 9, f.o.b. Chicago, tank wagon prices: 1 to 199 gallons, 7 cents; 200 gallons or more, 5 cents. Sinclair met this by bringing down the price of its No. 2.

Fuel Oils

Chicago tank wagon prices (in lots of 400 gallons and over): 28-40 straw distillate, 6 cents; 32-36 gas oil (light zero), 5.5 cents; 32-36 gas oil (industrial), 5.25 cents; 28-30 zero fuel oil, 5 cents; 24-26 fuel oil, 4.25 cents; 18-22 fuel oil, 3.75 cents.

TANK WAGON CHANGES

Standard Oil Co. of Kentucky reduced the gasoline tank wagon and station prices to 16½ cents in Vicksburg, Ky., January 5. On January 9 the gasoline tank wagon and station prices were advanced to 19½ cents in Atlanta, Ga. On the same date these prices were reduced in Jacksonville, Fla., to 19 cents.

Standard Oil Co. of New Jersey advanced the gasoline tank wagon and station prices in Richmond, Va., to 16.5 cents and 17.5 cents on January 11 and to 18.2 cents and 19.2 cents in Roanoke on January 8.

Standard Oil Co. of Ohio reduced the statewide gasoline and kerosene tank wagon price 1½ cents and the station price 2 cents on January 16 to 15.5 cents and 16 cents respectively.

Atlantic Refining Co. posted the kerosene tank wagon price in Boston at 8.5 cents.

CRUDE OIL PRICE CHANGES

The Stoll Oil Refining Co., effective January 18, reduced the price of oil in its lines 15 cents per barrel, making the new price 60 cents per barrel.

BAN ON CITY DRILLING O. K. IN SUPREME COURT

WASHINGTON, D. C., Jan. 18.—The appeal case of Walter H. Gant and others against Oklahoma City, Okla., was dismissed by the United States Supreme Court today for want of jurisdiction. This case involved the constitutionality of an ordinance and statute providing that no permit for drilling any petroleum or natural gas well should be issued without giving bond for damages to property, etc. The district and state supreme court had sustained the ordinance and statute as constitutional.

CRUDE OIL PRICES

(Continued from Page 77)

Stephens, Ark., below 29° (Aug. 24, 1931)	.41
Stephens, Ark., 29° and above (Aug. 24, 1931)	.44
Other fields	See gravity table

Note—Smackover, all grades, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co. Bellevue posted by Magnolia Petroleum Co.; Urania by H. L. Hunt, Inc., and Louisiana Oil Refining Co.; Calion by Gulf Refining Co.; East El Dorado by Gulf Refining Co. and Magnolia Petroleum Co., Stephens, Ark., by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Nov. 2, 1931)‡	$ .41
Luling (Nov. 2, 1931)†	.41
Mirando (Nov. 2, 1931)†	.71
Pettus (Nov. 2, 1931)*	.38
Salt Flat (Nov. 2, 1931)*	.41
Thrall§	
Lytton Springs (Lockhart)	See gravity table
Dobrowolski§	
Same as Mid-Continent gravity scale up to and including 38-38.9°.	
Somerset†	
Same as Mid-Continent gravity scale up to and including 38-38.9°.	

‡The Texas Company. *Humble Oil & Refining Co. †Magnolia Petroleum Co. §Thrall prices same as North Central Texas less 19½ cents per cwt. freight. †Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products. §Pioneer Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective November 3, 1931)

Lima	$1.01
Wooster	1.11
Illinois	.91
Indiana	.91
Princeton	.91
Plymouth	Shut in
Western Kentucky	.91
Midland, Mich. (Oct. 9, 1931)*	.91
Dundee, Mich.†	
Same as Stanolind Crude Oil Purchasing Co.'s Mid-Continent gravity scale	
Upper and Lower Traverse Sands, Mich.†	
....Same as Mid-Continent gravity scale	
Somerset, Ky. (Nov. 4, 1931)	.91
Hart County, Ky. (Jan. 18, 1932)§	.60

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment §Posted by Stoll Refining Co. Somerset Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through its own pipe line.

MEXICO

Panuco*	$ .40

*F.o.b. ship, based on October transactions and exclusive of production and export taxes and bar dues.

CANADA

Ontario (Nov. 3, 1931):	
Petrolia*	$1.00
Oil Springs*	1.07
Alberta (Aug. 24, 1931):	
Turner Valley†:	
Crude oil 45-45.9	2.01
Crude oil 50 and above	2.61
Crude naphtha	2.13
Discolored naphtha	2.23

*Imperial Oil, Ltd. †Imperial Oil, Ltd and Regal Oil & Refining Co.

Of Interest to Sales Departments

Seek Co-operation In Fighting Raise In Washington Tax

NEW YORK, Jan. 16.—Opposition of the petroleum industry to high gasoline tax rates in general and to the proposal to double the District of Columbia's present 2-cent per gallon rate in particular was sought today by W. T. Holliday, American Petroleum Institute vice president for marketing, in a letter to oil company and oil trade association executives.

Explaining that the House of Representatives has passed a bill designed to increase the national capital's gasoline tax rate to 4 cents from 2 cents and that the measure now is pending in the Senate, Mr. Holliday appealed for a representation of the industry at hearings to be held in Washington, D. C., the latter part of January or early February. He recommended that the case against high gasoline taxes be presented on the ground that they are an irresistible temptation to evasion and bootlegging, destructive of an honest gasoline price structure, and ruinous to fiscal programs of the states.

Raising the District of Columbia tax rate to 4 cents per gallon, said Mr. Holliday, who is also president of the Standard Oil Co. of Ohio, Cleveland, Ohio, "would be almost an invitation to states whose rates are lower to bring them up at least to that point, would amount to a declaration by the national Government of confidence that the tax would be collected even at excessively high rates, and would be almost certain to be quoted everywhere as a justification for such rates." On the other hand, he suggested, federal approval of a 2-cent tax rate would strengthen the case against the imposition of higher tax rates by the states.

In anticipation of the hearings, executives were urged to write vigorous individual letters of protest to members of the Senate committee on the District of Columbia, and to make an effort to talk personally with committee members and other senators in order that they might have a thorough understanding of the entire tax situation.

To explain that situation to the industry itself, Mr. Holliday sent with his letter a statement of the problem of excessive gasoline taxes, with their consequence of tax evasion, lost revenues, demoralization of prices, and disaster to honest dealers. It was said that high gasoline tax rates established so great a differential in favor of the lawbreaker that it becomes impossible to maintain a gasoline price structure which includes honest payment of the tax.

Difficulties of the states in collecting taxes at rates higher than 2 cents per gallon were recounted in detail, revealing that at the 2-cent rate the lawbreakers' possible profit is not sufficient to justify the risk, while higher rates make bootlegging and other tax evasion schemes decidedly profitable. Results are not only disruption of the business of reputable dealers who must collect taxes and pay them over to the state governments, at the same time facing the price-cutting competition of the lawbreakers who pocket the tax money as their profit, but also the bringing into play of the law of diminishing returns and the encouragement of imposition of still higher tax rates in an effort to make up growing deficits in state revenue.

Known cases of tax evasion in the various states were cited, as well as the numerous methods used by lawbreakers to evade and profit.

GOVERNMENT DATA SHOW GAIN IN CONSUMPTION OF BURNER OIL

The heating of buildings, both domestic and commercial, required 27,165,793 bbls. of gas oil and fuel oil in 1930, compared with 24,977,398 bbls. in 1929; 22,398,661 bbls. in 1928, according to a National Survey of Fuel Oil Distribution, 1930, just released by the U. S. Bureau of Mines. This compares with 20,984,251 bbls. in 1927 and 16,779,582 bbls. in 1926. The heating of commercial buildings, such as offices, apartments, schools, hotels and hospitals, called for 17,343,590 bbls. in 1930, a slight decrease from the 17,819,607 bbls. delivered under this classification in 1929. The corresponding figures for previous years are 16,427,105 bbls in 1928, 15,750,506 bbls. in 1927, and 13,874,181 bbls. in 1926. The net loss in deliveries of commercial heating oils in 1930 is attributable to a drop of 21.9 per cent in demand in the Pacific Coast area, where a wider use of natural gas in 1930 has been a factor.

Furthermore, a minor decline of 2.2 per cent is also indicated for the New England states, while all other sections of the country showed a gain. The heating of dwellings, or domestic heating, in 1930 continued to show an increase as in former years. The totals reported were 9,822,203 bbls. in 1930, 7,157,791 bbls. in 1929, 5,971,556 bbls. in 1928, 5,233,745 bbls. in 1927, and 2,905,401 bbls. in 1926. The domestic heating figures given above do not include furnace oils and light distillates. Estimates based on reports submitted by refiners indicate that, in addition to fuel oil and gas oil used in domestic heating, 15,537,000 bbls. of lighter oils was sold for this purpose in 1930, compared with 12,423,000 bbls. in 1929 and 8,300,000 bbls. in 1928. Including all grades of oil, the heating of buildings in 1930 required 42,702,793 bbls. against 37,400,398 bbls. in 1929, and 30,698,661 bbls. in 1928.

The following table shows the deliveries of gas oil and fuel oil, by districts, for commercial and domestic heating during 1929 and 1930, as reported to the Bureau of Mines. Estimates covering the consumption of light oils for domestic heating have been added.

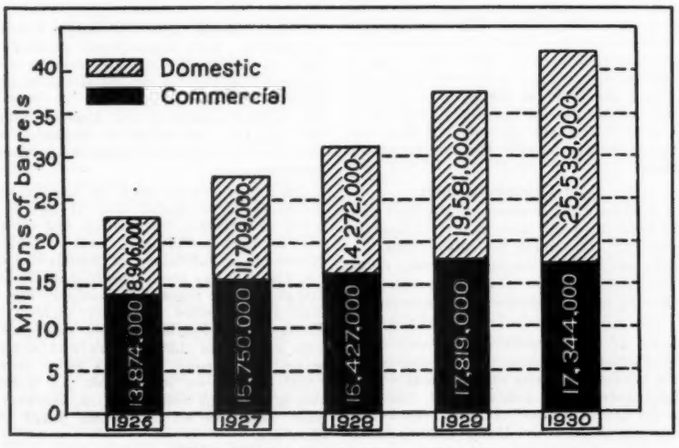
In the following table deliveries of all grades of oils sold for domestic heating purposes from 1923 to 1930 are included:

OIL CONSUMPTION FOR DOMESTIC HEATING

Year—	Barrels
1923 (heating season)	2,818,000
1924 (heating season)	5,021,000
1925 (heating season)	8,529,000
1926 (calendar year)	9,080,000
1927 (calendar year)	11,709,000
1928 (calendar year)	14,271,000
1929 (calendar year)	19,581,000
1930 (calendar year)	25,359,000

OIL CONSUMED FOR HEATING OF BUILDINGS, 1929-1930
(Figures in barrels of 42 gallons each)

	Commercial heating		Domestic heating	
	1929	1930	1929	1930
Pacific Coast	6,145,608	4,801,213	41,046	33,225
Rocky Mountain	40,116	67,034	101,032	139,840
North Central	2,425,042	2,513,396	3,294,027	3,941,104
South Central	1,675,563	1,874,080	411,779	677,872
New England	2,351,149	2,299,394	1,072,039	1,565,914
Middle Atlantic	5,048,727	5,632,006	2,180,361	3,358,386
South Atlantic	133,402	156,467	57,507	105,862
Total gas oil and fuel oil	17,819,607	17,343,590	7,157,791	9,822,203
Estimated consumption of lighter oils	.....	.....	12,423,000	15,537,000
Total consumption	17,819,607	17,343,590	19,580,791	25,359,203



Oil Deliveries for Heating of Buildings, 1926-1930.

CANADIAN NAPHTHA EXPORTS

CHATHAM, Ontario, Jan. 16.—Official figures for the month of November, 1931, show naphtha and gasoline exports from Canada of 986,024 gallons compared with 245,799 gallons in October. Refined coal and kerosene oil increased from 42,397 gallons in October to 356,234 gallons in November; while mineral oil exports in November were 363,919 gallons, as against 310,479 gallons the previous month. Crude petroleum shipments, however, showed a decline from 935,209 gallons in October to 509,550 gallons in November.

SHELL AWARDED CONTRACTS

The Shell Eastern Petroleum Products, Inc., received the contract for fuel oil to be delivered to the city of Boston in barge lots at 89½ cents per barrel. Petroleum Heat & Power Co. was awarded the contract for supplying municipal institutions with fuel oil by tank wagon deliveries, at 2.92 cents per gallon in truck loads.

STATES WHERE GASOLINE TAX MAY BE DEDUCTED

The American Petroleum Institute has been informed by the American Motorist's Association of Washington, D. C., that under Internal Revenue Bureau rulings, motorists of 26 states and the District of Columbia may deduct state gasoline tax payments when filing federal income tax reports. The states are those in which the tax is held to be payable by consumers rather than distributors, and the total deductible through this exemption is estimated by the association at $275,000,000.

Following are the states:

Delaware, District of Columbia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Rhode Island, South Dakota, Virginia, Washington, West Virginia and Wisconsin.

TO CONTEST ORDER ON COLORING OF GASOLINE

The recent action of Governor Bryan of Nebraska in ordering all gasoline sold to be water white in color except Ethyl Gasoline will be contested by refiners and jobbers marketing in that state. The order, which becomes effective February 15, would force the withdrawal of several branded gasolines, including premium, regular and third grades. Various colors are used for these gasolines.

It is claimed that the governor does not have authority for his action. The Nebraska law is based on federal government specifications for U. S. Motor gasoline. These specifications at present do not specify any particular color. The original Nebraska statute required water white gasoline with a proviso that changes should be made in line with the changes in the federal government specifications for U. S. Motor gasoline. It is pointed out that under the interpretation of the Nebraska act on which the governor bases his action, Ethyl Gasoline, which is always colored red, could not be sold in the state. A similar action in Colorado recently was not sustained by the courts.

SOVIET BUYS TANKER

NEW YORK, Jan. 16.—The Soviet government has purchased the tanker "Zoroaster," a Diesel-engined vessel of 5,100 deadweight tons. The British-built tanker "Germanic" was also acquired by the Soviet a short time ago.

According to reports from Bergen, Norway, the Russiske Oljeprodukter A/S will start the construction of a large bulk oil terminal at Skarholmen, on the fjord leading to Bergen, late this month. The new bulk terminal for Russian oil products will adjoin the three large bulk plants operated by other interests, and the operation of the plant will be under the management of a Norwegian upon completion.

SUN MARKETING DIVISION

NEW YORK, Jan. 18.—Sun Oil Co. has established a new marketing division, taking in eight New York State counties and three Pennsylvania counties, with headquarters at Binghamton, N. Y., under the management of Joseph H. Coon, formerly maintaining division sales headquarters at Syracuse. The Sun Co. has established a large bulk plant at Westover, N. Y., supplied with gasoline by the company's gasoline pipe line system originating at its Marcus Hook refinery. The company is also expected to establish a bulk terminal at Oneonta, N. Y.

Oil Field Pumping Problems Analyzed

Stresses in Sucker Rod Joints Discussed With Other Factors That Deserve Consideration by All Operators

By Emory Kemler
Engineering Division, Gulf Research Laboratory, Pittsburgh, Pa.*

In a recent analysis of oil field pumping troubles it was found that 25 per cent of the lost production was caused by sucker rod troubles. This fact has resulted in many investigations being undertaken to determine the loads carried by the rods. Much research has been done along this line but no one seems to have given attention to the stress condition existing in the sucker rod joint. These joint failures at fillet connecting the rod and pin, or box, amount to 72 per cent of the sucker rod failures. The sucker rod joint is then the largest individual trouble maker encountered in pumping operations. It is the purpose of this paper to determine the magnitude and distribution of load in the joint, and discuss methods of studying this important problem.

Types of Joint Failures

An analysis of field data on operating wells has shown that the sucker rod failures are distributed according to the following percentages:

Unscrewed joints	10.8%
Pin breaks	25.3%
Box breaks	12.2%
Body breaks	28.3%
Heat treatment failures	23.4%

The unscrewed joint failures need no explanation. They result from the action of the vibration of the rod on causing the joint to loosen and then gradually to come unscrewed. This type of failure can be solved by either increasing the make-up torque which results in a higher initial lead applied to the joint or by using some patented thread form or locking device to prevent the joint from loosening.

The pin breaks take place at the root of the last vanishing thread. The failure is due to fatigue and starts in the form of a crack at the root of the thread which spreads until it results in complete fracture. This fatigue failure is the result of high stress concentration at the root of the last vanishing thread. As will be shown later, this thread transmits a large part of the load and the stress is therefore high.

The size of the sucker rod joint is limited by the size of tubing used and any increase in the size of the joint is therefore impossible. The obvious remedy then for reducing pin breaks is to reduce the stress concentration. One possibility is to change the design of the pin threads in such a way as to reduce the stress concentration at their roots. Another possibility would be to modify the box in such a way as to improve the load distribution along the pin. Also a reduction of the load carried by the joint could be accomplished by using no initial tightening and would result in a considerable straightening of the pin. Such a method would require some special locking device to prevent the joint from coming unscrewed.

Box Failures

The box failures usually take place after the box has become worn due to rubbing against the tubing. The reduction of area due to wear results in increased unit stress which, with a high stress concentration factor, results in failure. These box breaks, since they are caused by excessive wear, can be reduced only by some type of protector or guide. Some changes in proportions might result in a small decrease in failures.

The body breaks take place in the uniform section of the rod. They are usually caused by fatigue and are accelerated by the presence of corrosion pits. The high stress concentration at the bottom of these pits results in a fatigue crack starting below the ordinary fatigue load. The body breaks are beyond control as far as design affecting them are concerned. These failures can only be reduced by decreasing the load or increasing the corrosion endurance resistance of the steel used in fabrication. In some cases they can be reduced by the use of some type of protective coating which will reduce corrosion.

The heat treatment breaks are so designated because they were first supposed to be a result of the method of manufacture. The pins and boxes are formed by upsetting the ends of the rods. After being upset the ends are normalized in order to remove all upsetting strains and cause a complete recrystallization of the metal into a fine grained condition. If the ends are not properly normalized the material will be weakened and there will be present some initial strains due to upsetting. There is also some stress concentration present at the fillets because of the change of section.

The problem of reducing heat treatment breaks is one of metallurgy as well as mechanics. The method of manufacture and heat treating are properly metallurgical problems. The part belonging to the field of mechanics is the determination of the stress distribution and concentration in the fillet connecting the box or pin and rod.

Stress Concentration

There has been a great deal of work done on the stress concentration in holes and cracks. This work has shown that the stress concentration in cracks or grooves may be very high. The amount depends to a very great extent on the shape of the crack. We would, therefore, expect that if the sucker rods were corroded or pitted that the stress concentration in such pits would be high. If these corrosion pits happen to be at the fillet connecting the pin or box to the rod, the concentration would be much more severe than if they were in the body of the rod. Furthermore, the concentration due to a change of section occurs at a point only a little removed from the body of the rod, so the area of the section is very nearly the same as the body of the rod. We would therefore expect a large number of the breaks to occur at this section. This is actually the case in sucker rods.

Load Carried by Joint

A theoretical analysis of the load carried by the joint shows that the load in the joint, Q, equals the initial load, P_o, plus one-half of the applied load, F, or $Q = P_o + \frac{F}{2}$. This derivation was on the basis of the threads being nonflexible. Experimental work is now in progress at the Gulf laboratories on the study of the load carried by joints under different make-up conditions. It has been found experimentally the load carried by a joint can be represented by $Q = P_o + \frac{F}{4}$ that is, the load in the joint is the initial load plus one-fourth of the load in the rods. The theoretical formula, on the basis of neglecting the flexibility of the threads gave $Q = P_o + \frac{F}{2}$. This shows that the flexibility of the threads has quite an effect on such a short joint.

Some preliminary tests showed that the initial load in a joint under ordinary make-up conditions to be in excess of 20,000 pounds. This means that on wells 400 feet or under operating at ordinary speeds that the initial load would be greater than the rod load and the load carried by the pin may be 50 per cent greater than the load in the rods. It can be seen then that any type of joint that would eliminate the initial tightening would have a big reduction in the load carried by the joint.

Torsional Stresses in Joints

The friction in the joint when it is made up causes a torque to be put in the pin which with a 4,500 pounds per square inch make-up torque would cause a stress of 12,600 pounds per square inch at the root of the thread. Since there will be a stress concentration factor of about two, the maximum torsional stress will then be of the order of 25,000 pounds per square inch.

If this stress were present it would affect the strength to a considerable degree and would be worth studying experimentally. It is probable, however, that some of this torque is reduced when the load is applied and the joint is subjected to a vibrating load.

The distribution of the load along a pin is given by $P = P_o \frac{Bx - B(21-x)}{1 - 2B1}$ where P is the load at any section, 1 the length of thread, x the distance along the pin and P_o the initial load. B is a constant depending on the elasticity and the spring constant of the threads.

Any method of obtaining better distribution of the load along the pin will result in a stronger joint. Some of the methods that have been previously proposed are to modify the box to give uniform distribution, to make the threads with a variable pitch, to make the box with a parabolic surface on the inside, and to increase the fillet at the root of the threads and thereby decrease the stress concentration.

The modified box has the disadvantage that it cannot be used where initial tightening must be used. The variable pitch thread and box with a parabolic surface on the inside require such accurate machining that they are not practical. The increasing of the fillet at the root of the threads means shorter threads and consequently much higher load concentration at the first threads because it will increase the value of B.

Conclusions

1. Any improvement in the endurance strength of the present joint can probably only be brought about by bettering the load distribution, bettering the stress condition at the root of the threads, or by using a material with a much higher endurance limit.

2. A modification of the box by having a varying area would give a more uniform distribution of load along the pin.

3. An increase in the flexibility of the threads would give much better load distribution.

4. An increase in the radius at the root of the thread would greatly reduce the stress concentration at that point.

5. The initial load put in a joint in present practice results in the joint being under a much higher stress than if only the applied load was present.

6. The torsional stress set up in a joint by the initial tightening might be of importance in considering the strength of the joint.

7. The fillet connecting the rod and box or pin should be made with a radius of at least 2 inches.

*Presented at meeting of Mid-Continent section, A. S. M. E., Tulsa.

ANGLO-AMERICAN TO REMAIN INDEPENDENT

NEW YORK, Jan. 18.—Anglo-American Oil Co., Ltd., has rejected an invitation to participate in the recently organized distributing organization, Shell-Mex & B. P., Ltd., formed by Royal Dutch-Shell companies and Anglo-Persian Oil Co., Ltd., for effecting economies in the use of their distributing and storage facilities.

An announcement made in London by Anglo-American states that it has decided to maintain its position and operate as an independent unit. Anglo-American, a subsidiary of Standard Oil Co. (N. J.) ,has been operating in Great Britain for 40 years. The company operates 12 refineries and bulk plants in England and Scotland, owns and operates a fleet of 135 tankers and other water oil carriers, and has more than 8,000 persons on its payroll. As a result of a recent reorganization, the company now has an all-British board of directors.

PECOS COUNTY ROYALTY TRIAL NOW UNDER WAY

AUSTIN, Tex., Jan. 18.—Early start of trial of the State's case originally filed against the late R. B. Whiteside and 144 others involving location of survey vacancied in Block 194, Pecos County, and the 206,000-bbl. Continental well and approximately one-half of the Yates Pool, was assured here Monday before District Judge Charles A. Wheeler. Judge Wheeler ruled that all cross-action controversies not necessary to determining the State's trespass to try title suit will be left over for separate litigation. He gave defendants until 5 p. m. Tuesday to file answers, and the state and cross-action plaintiffs until 5 p. m. Wednesday to file replications, and received announcements of the State and most of the 60 defense lawyers present that they will be ready for trial then.

Attorneys pointed out that some of the cross-actions are involved in pending federal court litigation; and that some phases of the case, based on similar contentions in the California and other cases, are awaiting decision by the U. S. Supreme Court, and some are on appeal in the El Paso Court of Civil Appeals.

Former Governor Dan Moody is in the case on behalf the Texas public school fund, in a contention that such vacancies as exist are in the northern section of Block 194 rather than in the lower portion adjoining the river surveys, and thus do not cover the big well and the oil properties. This contention seeks to uphold the public school fund's claim to one-sixteenth royalty on the production.

RUMANIA TO EXPAND IN FRANCE

The Rumanian minister of trade has appointed a committee, including C. Osiceano, managing director of the Steau Romana; T. Fieshinesco, manager of the Colombia Co., and M. Constantinesco of Creditul Minier, to develop a plan for increasing exports of Rumanian refined products to France. Rumania has materially extended its marketing operations in other parts of Europe but is dissatisfied with its French business, which constitutes but 6.4 per cent of the total French volume, against 10.6 per cent handled by Russia, 17.2 per cent by Persia, and 40.8 per cent by the United States.

ATLANTIC REFINING CO. QUESTIONS WATER RATE

(Continued from Page 73)

rate contracts do not make it mandatory upon shippers to supply any specific volume of cargo. The channel at Point Breeze, he said, was 26 or 27 feet during 1929 and 1930, the period covered in the Atlantic Refining complaint, and added that the company had brought some of its own tankers, with twice the draught of the conference freighters, to the Point Breeze docks without difficulty.

In so far as the rates on shipments to South Africa were concerned, Mr. Shadd said, he was aware that the Atlantic Refining Co. was contracting for such shipments at a higher rate than was being quoted to Vacuum Oil Co., its competitor, and that he had protested this without avail.

The hearing is expected to continue for some time.

Late Fields

(Continued from Page 24)

Allison Fitzwilliams Petroleum Corp.'s No. 1 Stratman, C SW SW SE, Section 23-16-10w, found oil in the Silicious lime at 3,388-91 feet. The oil rose 3,100 feet in the hole in 30 minutes. Some estimate the well at 1,000 bbls. a day. It is located about 1½ miles west of the discovery well drilled by the Gypsy Oil Co. and others in Section 22-16-10w.

On a five-day production test Derby Oil Co. and Aladdin Petroleum Corp.'s No. 1 Stoltenberg, in Section 22-16-10w, Ellsworth County, a Silicious lime producer, made 7,571 bbls. of oil. The well is located a quarter of a mile north of the Gypsy Oil Co.'s discovery well. Under the recent orders issued by the Public Service Commission all discovery wells in the Barton Arch area are permitted to make a five-day production gauge. The well averaged 1,514 bbls. of oil a day on the five-day gauge.

OKLAHOMA

Seven new locations were made in the Conservation Pool, in Pontotoc County. L. Meyer and others' No. 1, SW cor. NW SW, Section 21-5-6; Delaney and others' No. 1, NW cor. NE NW, Section 27-5-6; Kennedy and others' No. 1, NW cor. NE NW, Section 35-5-6; Pioneer Petroleum Co.'s No. 1 Boyne, SE cor. SW SW, Section 16-5-6; Edna Marie-Laurel Oil Co.'s No. 1 Walker, SW cor. SE NW, Section 22-5-6; Radial Oil Co.'s No. 1, NE cor., Section 28-5-6, and the same company's No. 1, SE cor. NE NE, Section 28-5-6.

The Carter Oil Co.'s No. 1 Monnett, SW cor., Section 35-7-4, in the southern part of Pottawatomie County, opens a new producing area south of the St. Louis Pool. On a production test the well made 373 bbls. of oil on January 17; it flowed 135 bbls. on January 18, and 600 bbls. in six hours on January 19, and is now estimated to be a 1,000-bbl. well. The oil is coming from the Simpson sand at 4,230-60 feet. It was shut down for additional tankage.

Empire Oil & Refining Co.'s No. 1 Davis, NW cor. NE NE, Section 30-7-8, in the Fish Pool, in eastern Seminole County, produced 1,010 bbls. of oil in six hours and was shut in for the 16 days' proration time. The oil was found in the pay at 2,999-3,009 feet. It is the east offset to the Jarvis and Holm's No. 1 Fish, NE cor. NW NE, Section 3-7-8, which was given a potential of 4,124 bbls. in 24 hours, based on a 12-hour production test from the pay horizon at 2,944-3,055 feet.

Over the week end three new producers were added to the Oklahoma City Field, making a total of 864 completions in that field. A fatal fire Monday afternoon marred the beginning of the week. A spark from a welder's flame ignited oil and caused an explosion of a battery of tanks at the Tom Slick Oil Co.'s Page lease in Section 14-11-3w. A welder was killed and two other men badly burned. It was estimated that approximately 2,000 bbls. of oil burned before the flames were brought under control with chemicals.

Phillips Petroleum Co.'s No. 1 M. Brittain, NW cor. NE SE, Section 35-12-3w, in the north end of the field, flowed 468 bbls. of oil in four hours and the gas was estimated at 6,500,000 feet a day. The oil and gas were found in the Wilcox sand at 6,216-6,440 feet. The small production in the well indicates that the edge of the field to the north may be near the location. The same company's No. 1 Classen, SE cor. SE NW, Section 15-11-3w, on the west side of the field, flowed 3,987 bbls. of oil in three and one-half hours with the gas estimated at 40,000,000 feet a day. The total depth of the well is 6,550 feet and the casing was landed at 6,385 feet.

Tom Slick Oil Co. and others' No. 2 Long, NW cor. SW SE, Section 15-11-3w, made 1,770 bbls. of oil in two hours and the gas was estimated at 36,000,000 feet a day. The 6-inch casing was landed at 6,429 feet and the total depth is 6,538 feet.

UPWARD TREND IN SEVERAL PRODUCTS

(Continued from Page 12)

the 36 gravity grade had declined to 25 cents.

Those who have made a study of both contracts believe that the first is more favorable to the refiner although the net return in both cases no doubt will be substantially under the net return to the seller in 1931. It is not considered probable that posted crude oil prices will advance to the levels necessary to secure the maximum benefit from the second contract. The provision of the first contract which protects the refiner in the first 17-cent reduction in posted crude oil schedules is considered a favorable feature because with a large potential production of crude oil there will be the danger of declines from the present posted schedules throughout the year.

Gasoline and Naphtha

Most refiners in Oklahoma (Group 3) on Monday and Tuesday were asking a low of 3 cents for U. S. Motor gasoline of no octane rating. The 57-65 octane gasoline was strong at a low of 3¼ cents and 65 octane or higher was tightly held at a low of 3½ cents. Several refiners in Oklahoma have never reduced their open market quotation on U. S. Motor gasoline under 3½ cents and if the open market advances to that level over the next two weeks they probably will advance to higher levels. These companies are confining their gasoline output to the requirements of their company-owned stations and regular jobber contracts and do not wish to participate in open market business. This attitude no doubt will continue until such time as the spot market quotation advances to the point where open market sales will represent a profit rather than a loss. With the present posted prices for crude oil schedules this dividing line for gasoline is generally placed around 4 cents depending in part on the price trends in other refinery products.

The 60-62 400 endpoint advanced to a low of 3¼ cents on Tuesday. The 64-66 375 endpoint grade was quoted at a low of 3¾ cents and the 350 and 360 endpoint grades are fairly active at 4⅛ cents with price ranges up to 4¼ cents.

There have been inquiries for blending naphthas ranging from 437 to 450 endpoint. These are largely a local demand. With short freight hauls, blenders can secure a cheap motor fuel by blending natural gasoline with low priced naphtha. However, with kerosene selling at 2⅝ to 2⅞ cents, refiners generally are asking a low of 2⅞ cents for 450 endpoint naphthas.

Kerosene and Tractor Fuels

Although no new large export or domestic buying of kerosene was reported in any of the Mid-Continent areas during the week, the market was sufficiently strong in Oklahoma to bring another one-eighth cent advance in all grades. The export buying of last month and early in January has taken up all the slack in the market and sellers have had no difficulty in advancing their quotations. A case was cited last week, in which a refiner in Oklahoma sold a 42-44 water white grade at 2¾ cents and on the same day sold a car of U. S. Motor gasoline for the same price reflecting the incongruous price relationship which now exists in all refined products.

The 41-43 water white grade was firm at 2⅝ to 2¾ cents the first of the week with the 42-44 grade one eighth cent higher.

Although this usually is the season of minimum demand for tractor fuels, the strong kerosene market brought a one-eighth cent advance in all grades. Those in touch with the consuming market report that the mild winter weather, particularly in the Southwest has brought more than the usual demand for tractor fuels which are used as substitutes of gasoline and kerosene. The prices on tractor fuels in Oklahoma ranged from 2 to 2⅜ cents.

Furnace Oils

Furnace oils were strong on Monday and Tuesday with several grades one-eighth cent higher than last week. The 32-36 straw or dark grade is quoted at a low of 1¾ cents although the bulk of the material in Oklahoma is selling at 1⅞ to 2 cents. The higher gravity grades range from 1⅞ to 2¼ cents, the latter covering the prime white material. These prices are being maintained in the face of warm weather in most of the consuming territory indicating that an extended cold period might result in a runaway market for the sellers.

Fuel Oil and Gas Oil

Among Oklahoma fuel oil and gas oil sellers, considerable complaint is heard of the low priced competition of refiners with plants located in the St. Louis, Kansas City and Chicago areas, the claim being made that with their freight rate advantages they are keeping Oklahoma refiners from sharing in the Middle West industrial business. They also point to the increasing competition of natural gas sold to industrial and public utility buyers.

The U.G.I. and high cold test gas oils were weak at 1¼ cents with Texas Panhandle material reported to have been offered northern buyers as low as seven-eighths cent per gallon, basis Group 3. The extremely high cold test fuel oils are available from skimming plants as low as 20 cents per barrel. The zero to 30 cold test products are stronger at last week's price ranges although not in active demand.

Natural Gasoline

With two or three of the larger manufacturers in Oklahoma and Texas continuing their storage programs, manufacturers in Oklahoma the first of the week were able to advance their 26-70 grade to 2¼ cents. The demand is not heavy but sellers believe it can be maintained with possible advances later in the week.

Reports from California indicate that the natural market in that area is stronger. The low of the market there for domestic shipment is 5¼ cents. This is of direct importance to Mid-Continent manufacturers, as it indicates that they will not be faced with low priced competition in coastwise and export sales.

Lubricants

As previously explained, the outlook for Mid-Continent lubricants is not favorable. In this market, complaints are heard that some refiners who are maintaining their prices on neutral oils and bright stocks are selling finished motor oils with whatever concessions necessary to get the business. Extremely low prices are also coming from compounders. The next week probably will determine the price trend for the immediate future in bright stock and steam refined stocks. No additional reductions in neutrals have been announced since the blanket reduction of last week.

ROY H. BETTIS DIES

HOUSTON, Tex., Jan. 18.—Roy H. Bettis, 45, owner of the Bettis Sales Co. and a resident of Houston for the past 15 years, died at a local hospital Monday.

SEEK NEW VALUATION ON KETTLEMAN ROYALTY

WASHINGTON, D. C., Jan. 18.—Lessees of Kettleman North Dome, California, appealed to the Department of the Interior for a more equitable valuation of oil, gas and natural-gas gasoline for computation of royalty at a hearing before Secretary Ray Lyman Wilbur and officials of the department.

Representatives of a dozen oil companies testified that it is unfair for the Government to impose an arbitrary minimum valuation. The price, they asserted, should be governed by the market price within the field.

Secretary Wilbur stated that the department is seeking to adjust the royalty rates through a plan of justice and equity. He questioned the lessees on the feasibility of carrying the whole matter to the courts for a final determination. However, he invited them to present to him a program before they return to California.

The basis in force in reference to a minimum valuation of oil since July 1, 1931, has been the "highest price posted in California for crude oil of equal or lower gravity." This is now 89 cents per barrel. Objections have been raised to this, and a basis of "posted price" was offered instead.

In reference to gas, the basis in force since February 25, 1922, has been a minimum of 5 cents per 1,000 feet on all public lands in the western states. The basis offered by the appellants is the realized price.

The basis in force in reference to a minimum valuation on natural gas gasoline have been (a) from May 1, 1930, to July 1, 1931, the San Francisco tank wagon price (less tax), minus 6 cents; (b) July 1, 1931, the sum of three items; (1) 1 cent, plus (2) one-half the excess of the average Los Angeles-San Francisco service station price over 5 cents, plus (3) one-half such excess over 15 cents. The appellants offer a basis of actual field sale price.

A. H. Brown, president of the General Petroleum Corp., stated that he did not see how the Government could work out a formula because of the fluctuation in price which cannot be anticipated definitely. P. G. Black, of the Continental Oil Co., also said it seemed impossible to prescribe any formula of price, and William G. Feely of the Standard Oil Co. of California added that it would have to be governed by the open market. Transportation costs and other factors he declared had to be reckoned with.

B. H. Faulkner, of the Milham Exploration Co., said the present valuation is not equitable and an adjustment should be worked out. Other speakers testifying similarly were: A. L. Weil of General Petroleum Corp., L. A. Spiess of the Associated Oil Co., Forsyth Wickes, S. W. Duhig, and F. B. Dow.

ASK KANSAS S. O. PROXIES

NEW YORK, Jan. 18.—An effort to oust the present management of the Standard Oil Co. of Kansas was announced today, following the mailing of a plea for proxies to shareowners by a stockholders' committee consisting of Lionel T. Barneson, Cyrus Bell and C. B. Wrightsman.

The letter to the stockholders said:

"After an exhaustive survey of the company's plant and equipment, financial position, methods of operation and possibilities of future development, we are convinced that if the company is placed under aggressive and efficient management it can rapidly regain a leading position in the field.

"As a member of your board of directors, Mr. Wrightsman has urged the present management to take the initiative in a vigorous and constructive policy and its failure to do so has forced the undersigned stockholders to enlist the help of other stockholders to repair the damage which lack of initiative of the present management has caused."

Mr. Barneson formerly was president of the General Petroleum Corp.

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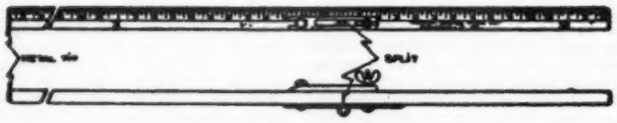

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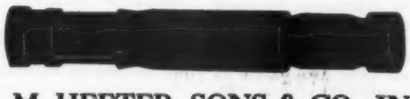

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A.P.I. DIRECTORS TO CONSIDER SITUATION

(Continued from Page 13)

tion for a more moderate and reasonable adjustment of these taxes. Therefore, be it. 'Resolved that it is the opinion of the board of directors of the American Petroleum Institute that the proposed increase in the District of Columbia of the gasoline tax should be opposed with all possible earnestness; and that the Division of Marketing and the officials of the American Petroleum Institute are asked to present, before the Senate Committee and the Senate, as strongly as possible, the reason why this increase should not be written in the law.' "

Resolution on Penn's Death

The board adopted a resolution of appreciation of the services to the industry by Robert R. Penn, former vice president and chairman of the Division of Production.

Mr. Penn was killed on December 19, last, when his shotgun was discharged while he was preparing for a hunting trip.

"During a season of trials to men and to a great industry," the resolution read, "the stalwart independence and rugged determination of Bob Penn had endeared him to his coworkers. His was the faith of David Crockett, who had patterned his life on the creed, 'Be sure you are right, then go ahead.'

"Mr. Penn was forever going ahead when he felt sure of the soundness of his position. He became interested in the oil industry after the American Petroleum Institute was an established organization. As an upstanding and forward-looking oil man he turned naturally to the Institute for information and he came not alone to be served, but to serve. His integrity of purpose and his lofty character had been attested in newspaper work before he became connected with the industry. He brought to his new field qualities of mind and body and earnestness of character that served it well. The industry, as well as the Institute, is debtor to his memory. Mr. Penn had fought valiantly and aggressively in Texas in support of his ideas for conservation and stabilization, and had established so impressive a record that at the annual meeting of the Institute in 1930 he was elected vice president and made chairman of the Division of Production. During the year of his incumbency he was tireless and relentless in organizing and working for orderly oil production and stabilization."

Those in Attendance

The session was attended by the following officers and directors of the Institute: Amos L. Beaty, president; W. T. Holliday, Standard Oil Co. of Ohio, vice president in charge of marketing of the Institute; W. R. Boyd, Jr., executive vice president; Lacey Walker, secretary and assistant treasurer; Richard Airey, Asiatic Petroleum Corp., New York; C. B. Ames, The Texas Company, New York; E. R. Brown, Magnolia Petroleum Co., Dallas; Axtell J. Byles, Tide Water Associated Oil Co., New York; F. R. Coates, Henry L. Doherty & Co., New York; W. N. Davis, Phillips Petroleum Co., Bartlesville; Henry M. Dawes, Pure Oil Co., Chicago; O. D. Donnell, Ohio Oil Co., Findlay; J. Frank Drake, Gulf Oil Corp., Pittsburgh; L. J. Drake, Union Tank Car Co., Chicago; H. B. Earhart, White Star Refining Co., Detroit; Wirt Franklin, Wirt Franklin Petroleum Corp., Oklahoma City; John L. Gray, Deep Rock Oil Corp., Tulsa; R. C. Holmes, The Texas Company, New York; W. M. Irish, Atlantic Refining Co., Philadelphia; F. A. Leovy, Gulf Production Co., Pittsburgh; L. L. Marcell, White Eagle Oil Corp., Kansas City; Edgar J. Marston, Texas Pacific Coal & Oil Co., Fort Worth; C. F. Meyer, Standard Oil Co. of New York; G. R. Nutty, Gulf Refining Co., Pittsburgh; J. Edgar Pew and J. Howard Pew, Sun Oil Co., Philadelphia; Frank Phillips, Phillips Petroleum Co., Bartlesville; Herbert L. Pratt, Standard Oil Co. of New York; Charles F. Roeser, Roeser & Pendleton, Inc., Fort Worth; E. W. Sinclair and H. F. Sinclair, Sinclair Consolidated Oil Corp., New York; W. E. Smith, Standard Oil Co. of Kentucky, Louisville; Charles L. Suhr, the Pennzoil Co., Oil City, and J. C. Van Eck, Shell Union Oil Corp., New York. In addition to the above directors, the meeting was attended by E. S. Hall, Harry L. Shoemaker, E. P. Salisbury and E. J. Sadler, all of Standard Oil Co. (New Jersey); D. D. Little, Magnolia Petroleum, Dallas; F. B. Dow, of the Institute's Washington office; J. M. Sands of the Phillips Petroleum Co. at Bartlesville; L. L. Stevens, Standard Oil Co. of Indiana, Chicago; J. C. Welliver, Sun Oil Co., Philadelphia, and L. J. Berry of the Ohio Oil Co., Findlay.

MAGNETOMETER SURVEY OF JACKSON AREA

(Continued from Page 15)

estimated that the field as now developed will cover approximately 6,000 acres.

Comparison of Maps

It is interesting to note that the recommendations of Mr. Hopkins in his report as to the best prospects for a test well in Section 34-6n-1e have actually been proven to be the highest part of the structure. In all probability Section 12-5n-1e would also have received favorable mention had there been sufficient surface indications to have enabled him to have mapped the upper portion of the structure. Furthermore, the axis as drawn by Mr. Hopkins on the map shown in Plate 1 has also been proven to be very accurate as indicated by the axis of the subsurface high extending northeast from Section 34-6n-1e across Section 35 and Section 26.

Comparing the surface structure map with the magnetometer survey it can be observed that the use of the magnetometer in this particular instance has given additional information with respect to the top of the structure, supplementing the work of the surface geologist.

Comparing the magnetometer survey

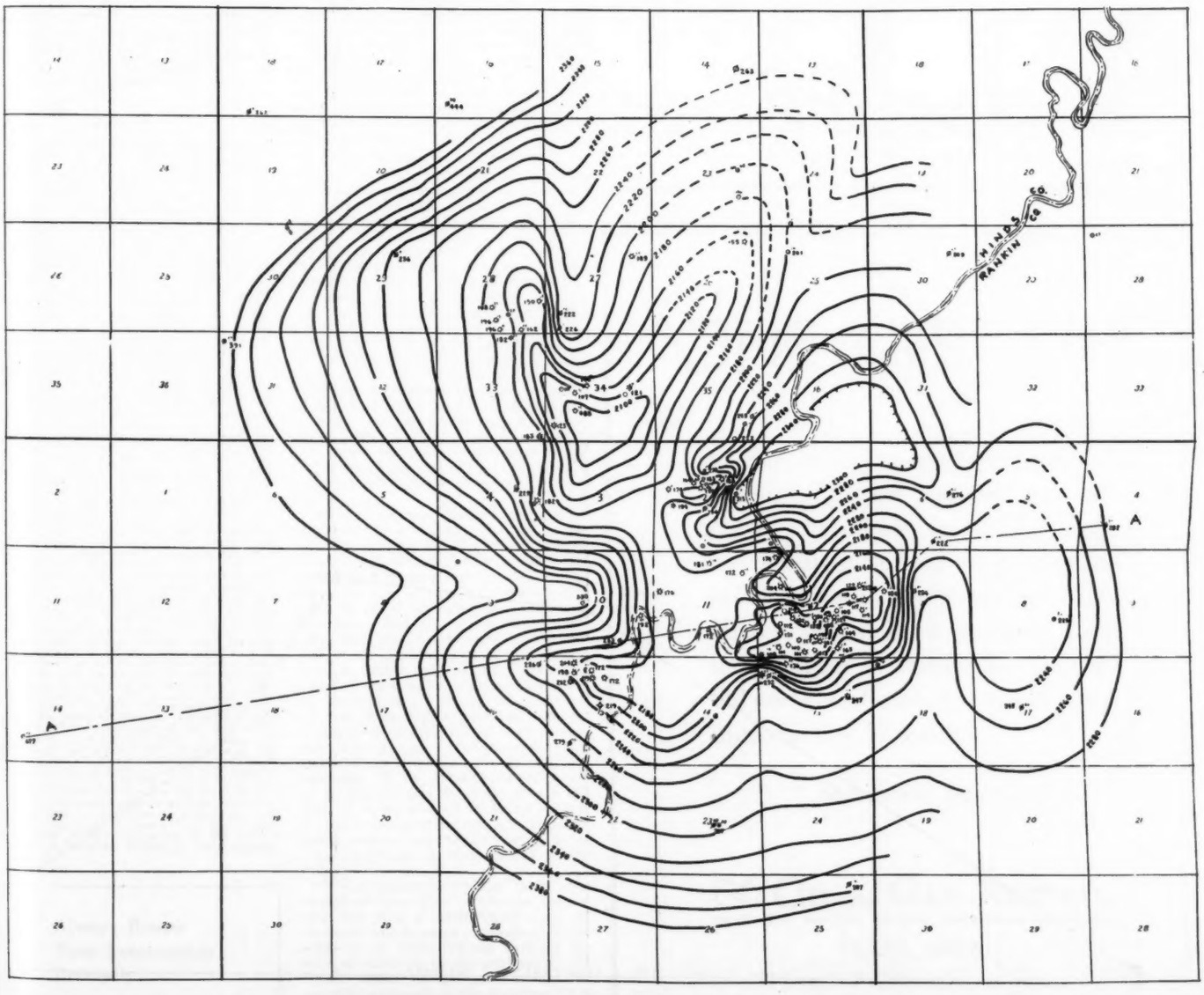

Plate 3—Structure map of the Jackson area, contoured on top of chalk.

with the subsurface map it is interesting to note that the high indicated in Section 12-5n-1e with the magnetometer checks very closely with the high outlined by the actual drilling.

Plate 4 shows the comparison of a cross section from A to A (Plates 2 and 3) of the Jackson structure as indicated by the magnetometer results and the actual drilling operations. Of course, the close similarity of the two graphs should not be interpreted as meaning that the magnetometer readings are influenced by the position of the top of the chalk. It can be interpreted as showing the general shape of the igneous plug underlying this area and that the chalk is lying conformably with the igneous mass.

By choosing 100 gamma to the inch for the vertical scale of the magnetometer profile and 50 feet to the inch for the vertical scale of the top of the chalk profile the two graphs are almost identical.

Conclusions

With the recent introduction by the American Askania Corp. of the new and improved moving systems for magnetometers the accuracy of magnetometer work has been greatly increased, making it possible to map in detail small variations in the earth's magnetic field. By holding the errors to very close limits it is possible to contour magnetometer surveys on a 10-gamma interval and when this is done several small folds and closed structures can be located in the close vicinity of the Jackson structure.

Thus far there has been no commercial oil found on the Jackson structure and it is the firm belief of the geologists that in the event oil is found it will be on minor folds or smaller structures somewhat removed from the main plug. For these reasons it is hoped that in the near future several of these smaller folds will receive attention from the wildcatter or the major companies.

GENERAL ASPHALT SUIT HEARD

NEW YORK, Jan. 18.—The House of Lords will open hearings on General Asphalt Co.'s appeal from the decision of the British Court of Appeals in favor of Anglo-Saxon Petroleum Co., Ltd., on January 21. The suit involves claims to royalty rights from the Vigas Concession in Venezuela, taken over by Anglo-Saxon, a Royal Dutch-Shell subsidiary. The British High Court, in the original hearing of the suit, found in favor of General Asphalt Co., but this decision was reversed by unanimous action of the British Court of Appeals justices. The decision of the House of Lords will be final.

HEARING ON OIL TARIFF BILL PROMISED EARLY

(Continued from Page 13)

rates for coal which under ordinary conditions carries a high price there, is disclosed to be essential to keeping the industrial machinery in motion in these times of depression. All that has to be taken into account by the proponents of an oil tariff even though this opposition comes from the strongholds of the theory of tariff protection for American industry.

There is a strong feeling on the part of many advocates of an oil tariff that it should not be linked with any other campaign for tariff legislation and some members believe the joining of legislative forces of lumber and cement when the tariff bill was last before the House defeated its passage. This is one of the questions now being debated, together with the question of what particular industrial interests that call for further tariff protection could with advantage be taken into camp so that they might fight in a common cause.

Mr. Garner, who was at one time considered uncompromisingly in favor of an oil tariff, it is now said, does not show the old time enthusiasm, and with some others of his party thinks tariff matters should go over until the national campaign has been settled.

Wirt Franklin in West Virginia

Wirt Franklin, president of the Independent Petroleum Association of America, speaking before the Rotary Club at Charleston, West Virginia, Friday, January 15, said:

"The only quick and practical method of restoring prosperity to the people of this nation is through the adoption by Congress of a tariff upon cheap foreign oil. While the domestic petroleum industry is being destroyed to the advantage of none except the great oil importing concerns, the purchasing power of

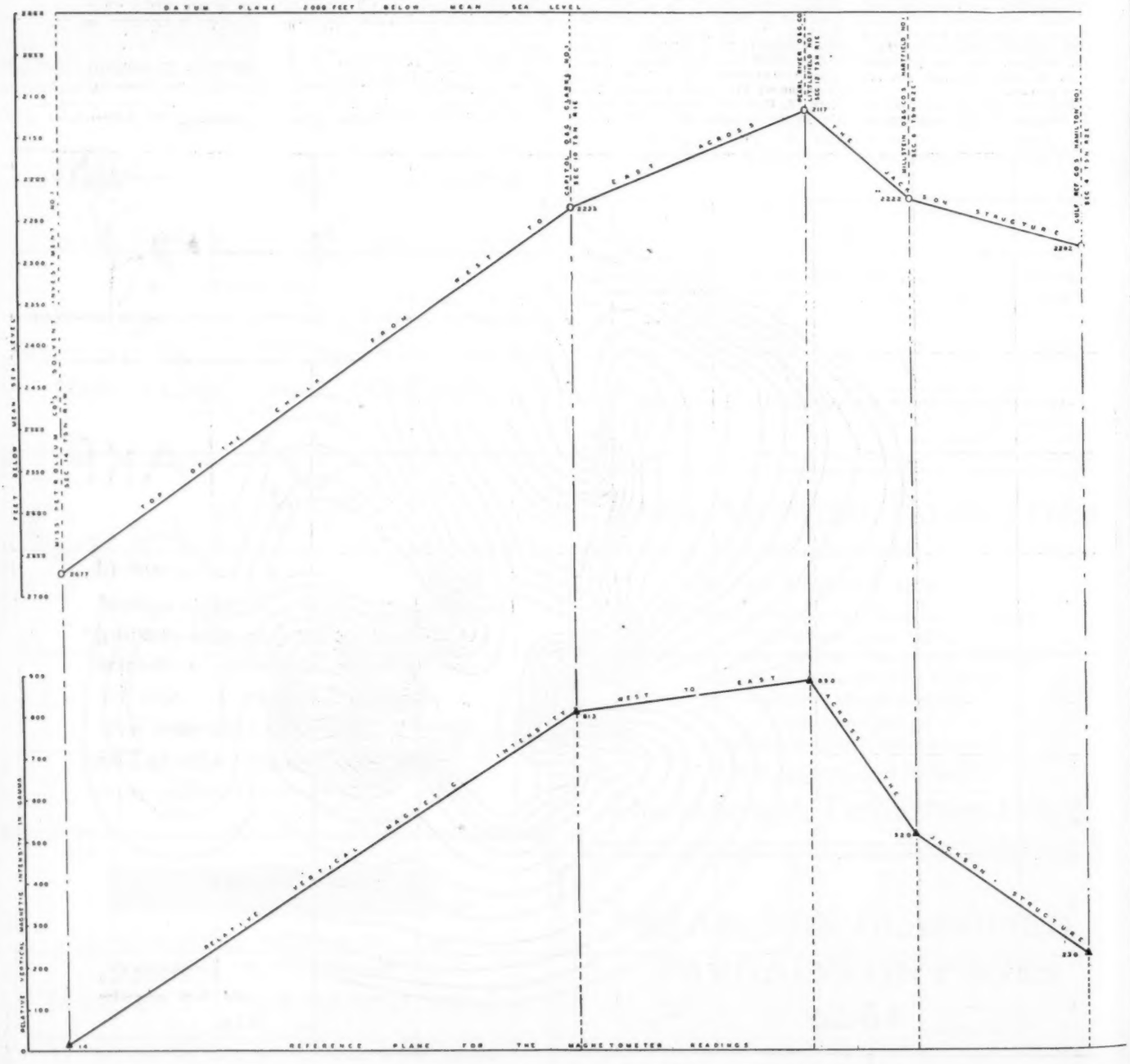
DATUM PLANE 2000 FEET BELOW MEAN SEA LEVEL
TOP OF THE CHALK FROM WEST TO EAST ACROSS THE JACKSON STRUCTURE
RELATIVE VERTICAL MAGNETIC INTENSITY
WEST TO EAST ACROSS THE JACKSON STRUCTURE
REFERENCE PLANE FOR THE MAGNETOMETER READINGS

Plate 4—Graphic comparison of a section from west to east across the Jackson structure as indicated by the top of the chalk and the magnetometer.

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LEGAL

Sale of Oil and Gas Lease, Department of the Interior, Monroe, Louisiana. Notice is hereby given that the following described land in one unit in the known geologic structure of the Monroe Gas Field, Louisiana, is offered for lease under Sec. 17 of the act of February 25, 1920 (41 Stat. 437), at the customary sliding scale of 12½ % to 33⅓ % of the quantity or value of the oil produced, of 12½ % to 16⅔ % of the value of the gas produced, and of 16⅔ % of the value of the natural gas gasoline produced, in accordance with the royalty schedule in the regular lease form, and the rental as required by Sec. 17 of the said act: T. 19 N., R. 5 E., Sec. 10, SE¼ SE¼, 39.82 acres; T. 20 N., R. 5 E., Sec. 34, SE¼ SE¼, 40.07 acres; Louisiana Meridian, Louisiana. The lessee will be required to proceed with reasonable diligence to install standard or other efficient drilling outfits and equipment and within three months of delivery of the executed lease to commence drilling one well on each tract of the leasehold. The drilling of each well shall be continued with diligence to production, and thereafter produced, or to a point where the well is demonstrated unsuccessful; and if any well be demonstrated unsuccessful additional wells shall be drilled in lieu thereof until one productive well shall be drilled on each tract or the tract proved barren. Neither more nor less than one productive well shall be drilled on any tract without consent in writing first obtained from the lessor. Beginning with the fourth calendar month after delivery of the lease and continuing until production on nearby lands shall have been fairly offset by production on the leasehold, the lessee shall pay a sum of each tract estimated to reimburse the United States for current loss of royalty therefrom through drainage, the amount of such reimbursement to be fixed monthly by the supervisor of oil and gas operations, subject to the right of appeal to the Secretary, provided that during the last nine months of the first year of the lease such sum is hereby fixed at $25.00 per tract per month. Said lease will be offered for sale by public auction at the west entrance to the Post Office Building, Monroe, Louisiana, at 10 A. M. on January 30, 1932. The successful qualified bidder must deposit on the date of sale with the officer in charge of the sale certified check on a solvent bank, or cash, for one-fifth of the amount bid by him, and file the showing of qualifications to receive a lease required by Section 15 of said regulations. Bidders are warned against violations of the provisions of Section 59, U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any or all bids in the discretion of the Secretary of the Interior. James W. Neal, Officer in Charge.

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the oil producing states has been reduced by hundreds of millions of dollars. If one-third of the area of the United States, with a population of 22,000,000 people, is impoverished to the point where the inhabitants cannot purchase from the industrial and manufacturing sections those things which a civilized and highly developed community need, there can be no industrial and commercial recovery in the United States for many years to come. The civilization of a third of the United States has been builded upon oil and the allied and kindred industries dependent upon the petroleum industry. Obviously, imports should not lower the level of that civilization.

"The American petroleum industry, in an attempt to stabilize the market, cut down production in 1930 to 109,000,000 bbls. less than was produced in 1929. During 1930, however, 105,000,000 bbls. of crude and refined oil were imported, while there was withdrawn from storage approximately 23,000,000 bbls. In 1931, the American petroleum industry cut its production 48,000,000 bbls. below the amount produced in the preceding year. During the first 10 months of 1931 over 50,000,000 bbls. of oil were withdrawn from storage and in this year, under the pressure exerted by the American producers, imports were approximately 21 per cent lower than in 1930.

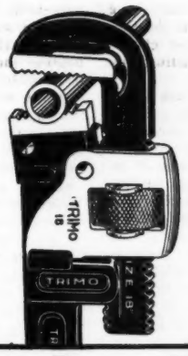
"While the tremendous oil fields of this nation would be more than sufficiently large to meet the whole demand of our home market for petroleum and its products, this industry by voluntary efforts aided by state regulation which it obtained, has not permitted production to come anywhere near the demand for petroleum products. In the period for 1918-1930, American production of oil fell 696,000,000 bbls. below the demand. During that period imports of crude oil amounted to 1,010,000,000 bbls., resulting in the addition to our surplus in storage of 341,000,000 bbls.

Most Heavily Taxed Industry

"The American petroleum industry is not the only sufferer from the invasion of cheap foreign oil. State governments and the Federal Government are also suffering. The oil industry is the most heavily taxed industry in the nation. From the well mouth to the ultimate consumer petroleum and its products carry a constantly increasing burden of taxation, while imported oil pays not a penny to the support of the Government. Because of the decreased production due to the impossibility of competing with cheap foreign oil, the State of Oklahoma alone lost $8,000,000 in taxes in 1931, while others of the 19 oil states suffered in greater or less degree from the same cause. The Federal Government may note in the returns for corporation taxes and income taxes and other forms of taxation the effect of the oil industry's prostration.

"Cheap imported fuel oil has caused the price of the domestic fuel oil in the refining centers of the Mid-Continent Field to fall at times below 50 cents per barrel, thus bringing about a very wasteful utilization of this oil, which might better be saved for higher uses than fuel. This cheap fuel oil, coming into competition with coal, has brought serious distress to the coal industry throughout the country, which industry has been compelled to discharge from employment during the time this condition has prevailed not less than 50,000 American laborers employed in the mines and in the transportation of coal. The unemployment problem, now receiving such diligent consideration by the administration, might be greatly reduced by shutting out imports of cheap fuel oil, allowing the use of coal in many industrial and manufacturing centers, and thus bringing about a re-employment of thousands of miners who are now idle.

"Those opposed to a proper tariff upon foreign oil have tried to give the impression that such a tariff would mean an increased cost to users of gasoline. There seems to be little relation between the price of crude oil to the producer in the United States and the price of gasoline and lubricating oils to the consumer. This can be illustrated briefly by referring to



Strength - Safety

TRIMO's leadership in the oil fields is based on no trick claims, no flash in the pan wave of popularity.

Strength and safety have made TRIMO first choice. The handle is drop forged not cast — and heat treating gives the extra toughness to stand terrific strain.

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the fact that in February, 1926, in 52 representative cities throughout the United States, the average price of gasoline at the filling stations, exclusive of tax, was 18.00 cents per gallon, while the average price of crude oil of 36 gravity Baume during February, 1926, in Oklahoma and Kansas was $2.04 per barrel. The average recovery of gasoline, by the refining methods then in use was 38 per cent, or 15.96 gallons per barrel. In 1929, the average price of gasoline at the filling stations in the same cities, exclusive of tax, was 18.39 cents per gallon, while the price of crude oil of 36 gravity Baume in Kansas and Oklahoma was $1.20, and the recovery of gasoline by the improved refining methods had increased to 44 per cent, or 18.48 gallons of gasoline for each barrel of oil. The same relative price schedules obtained throughout the years 1926 and 1929. The price of gasoline to the consumer has not fluctuated in proportion to the price of crude oil and you pay the same 25 and 30 cents per quart for lubricating oil for your car today that you paid when oil was $3.50 per barrel."

CORRELATE ANTIKNOCK AND VAPOR PRESSURE

(Continued from Page 22)

an antiknock viewpoint. First, it is highly lead responsive, and, second, its antiknock characteristics are retained through wide ranges of engine operating conditions.

Lead Responsiveness

Plate 2 demonstrates the factor of lead responsiveness. The increase in octane number with additions of tetraethyl lead is shown for two natural gasolines, four straightrun gasolines and three cracked gasolines. Curves are also shown for two interesting fractions of natural gasoline. The physical characteristics of the gasolines are enumerated in Table 3.

It is to be noted that the natural gasolines and the straightrun gasolines are decidedly superior to the cracked gasolines in regard to lead responsiveness. The natural gasolines, with their higher initial octane numbers, have a lead responsiveness equal to or better than the straightrun gasolines, with their lower initial octane numbers.

More work needs to be done to demonstrate the tangible value of this attribute of natural gasoline. But Plate 2 indicates the definite possibility that the use of natural gasoline in ethyl base gasolines might effect noticeable reductions in the amounts of ethyl fluid required.

Plate 3 demonstrates one phase of the "stability" of the antiknocking property of natural gasoline. The figure shows the drop in octane numbers of gasolines when the jacket temperature of the test unit is raised from 212° to 350° F. Such a comparison has been possible as a result of Phillips Petroleum Co.'s survey of aviation gasolines in which the conventional motor fuel antiknock test was made with the jacket temperature at 212° F. and additionally the more rigorous test with the jacket temperature at 350° F. As designated in Plate 3, the motor fuel rating was determined on the original Waukesha unit, while the test at 350° F. was determined on a modified Delco unit. All samples were subjected to the same procedure, so the comparison is valid.

Should Hold Its Own

Before describing Plate 3 it should be mentioned that comparing natural gasoline with aviation gasolines is probably placing the product in a relatively unfavorable light, for it is to be presumed the very best refinery gasolines go into the aviation market. Thus, if natural gasoline can survive such a comparison it should be able to hold its own in any comparison.

In Plate 3 the solid circles represent aviation naturals, the hollow circles represent "other" aviation gasolines. Plus signs on the points indicate ethylized products. A mere scrutiny of the chart reveals the decided superiority of natural gasoline. A detailed analysis of the test data shows the following salient facts: (a) the average drop in octane number between these two tests is 3.2 and 5.9 for aviation naturals and "other" aviation gasolines respectively; (b) of the 58 aviation naturals only three samples had drops in octane numbers higher than 5.9, the average in the case of "other" aviation gasolines; (c) of the 121 "other" aviation gasolines only 14 had drops in octane number less than 3.2, the average in the case of aviation naturals.

The physical characteristics of these 17 exceptional gasolines (b and c above) are enumerated in Table 4. It is noteworthy that a fair proportion of the 14 exceptional samples of "other" aviation gasolines have physical characteristics very similar to those of natural gasoline.

Plate 3 demonstrates only one phase of the "stability" of the antiknock properties of natural gasoline. In the actual testing of the products, other phases such as speed, spark advance, air-fuel ratio and power output are decidedly in favor of natural gasoline. However, experimental data are lacking to demonstrate these effects definitely.

For the sake of completeness, the conditions of test used in determining the octane numbers reported herein are included below. Except for the 350° F. jacket temperature determinations shown in Plate 3 all tests were made on an original Waukesha unit operated under the following essential conditions:

Jacket temperature—212° F.
Speed—600 r.p.m.
Spark advance—20°.
Oil temperature—160° F.
Inlet manifold temperature—120° F.
Worst knock mixture—bouncing pin—electrolytic cell.
Reference fuel—aniline in straightrun calibrated against iso-octane-heptane.

These operating conditions in the original Waukesha unit used places the Ethyl Gasoline Corp.'s standard at 75.2 octane number as compared with the value of 74.2 established by the Ethyl Gasoline Corp.

In the modified Delco unit the same methods were employed with the following exceptions:

Jacket temperature—350° F.
Speed—700 r.p.m.
Spark advance—21°.

These operating conditions in the modified Delco unit used appear to yield knock ratings two to three octane numbers lower than are obtained by the method (Y 3557E) prescribed by the U. S. Army Air Corps, although too few comparisons have been made to definitely establish such a relationship generally.

Summarizing, a rather limited number of tests have been made of the antiknock characteristics of natural gasolines. These tests indicate a fairly reliable relationship between octane numbers and Reid vapor pressure, that natural gasoline, while not an outstanding antiknock agent, has a relatively high octane number, and that natural gasoline is decidedly superior in regard to lead responsiveness and "stability" of antiknock properties, particularly when compared with cracked gasolines.

GASOLINE TAX EVASION RACKET IS DISCUSSED

(Continued from Page 18)

found almost unbelievable conditions. The profits that the racketeers have found obtainable have been so extensive and attractive that every known criminal device has been resorted to.

The invasion of the industry by the racketeer has left behind a trail of blackmail, corruption, bribery, intimidation, kidnaping, etc. Wildcat refineries have been turning out millions of gallons of motor fuel for illegal sale. Service stations have been manned by racketeers and caravans of tank trucks, trains of tank cars, and tankers have moved their liquid booty by day and night. Dummy cor-

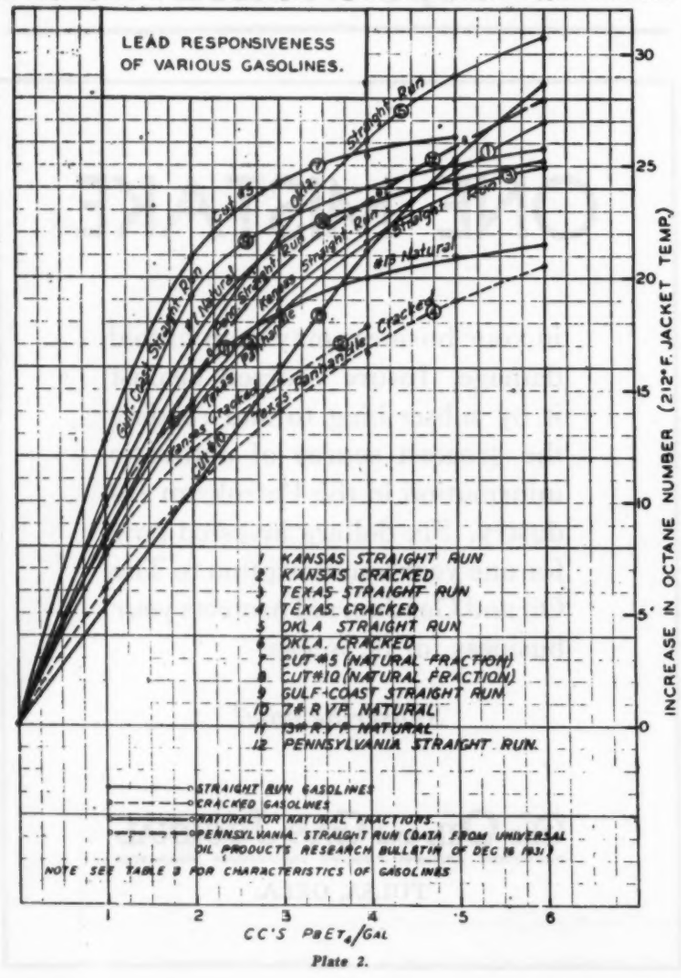
LEAD RESPONSIVENESS OF VARIOUS GASOLINES.
INCREASE IN OCTANE NUMBER (212° F. JACKET TEMP.)
CC'S PbEt4/GAL
1 KANSAS STRAIGHT RUN
2 KANSAS CRACKED
3 TEXAS STRAIGHT RUN
4 TEXAS CRACKED
5 OKLA STRAIGHT RUN
6 OKLA. CRACKED
7 CUT #5 (NATURAL FRACTION)
8 CUT #10 (NATURAL FRACTION)
9 GULF-COAST STRAIGHT RUN
10 7# R.V.P. NATURAL
11 13# R.V.P. NATURAL
12 PENNSYLVANIA STRAIGHT RUN.
STRAIGHT RUN GASOLINES
CRACKED GASOLINES
NATURAL OR NATURAL FRACTIONS
PENNSYLVANIA STRAIGHT RUN (DATA FROM UNIVERSAL OIL PRODUCTS RESEARCH BULLETIN OF DEC 15 1931)
NOTE SEE TABLE 3 FOR CHARACTERISTICS OF GASOLINES

Plate 2.

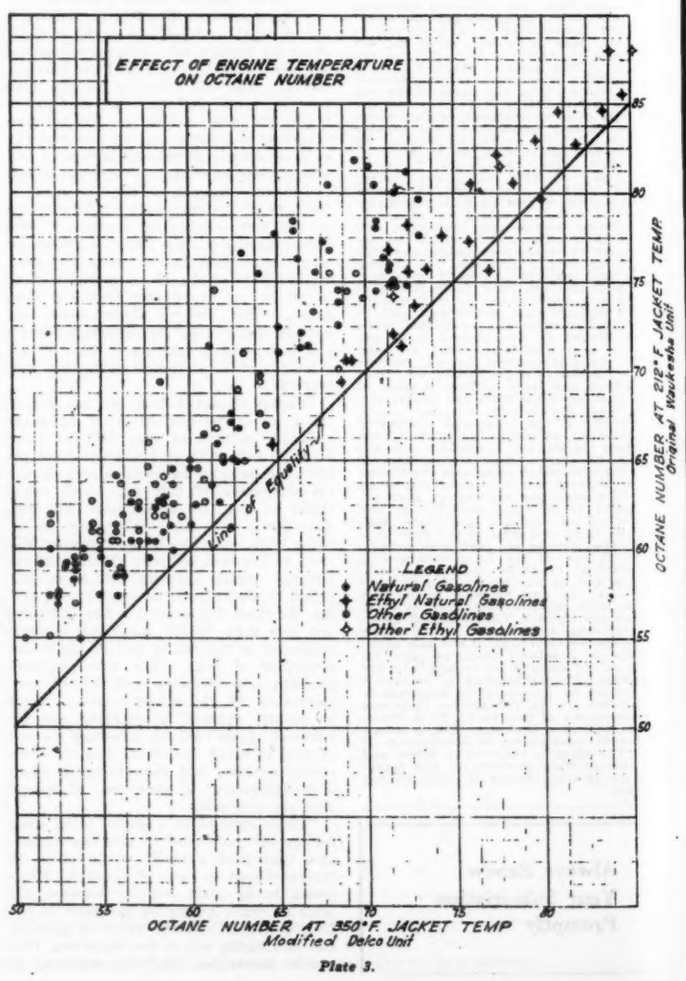
EFFECT OF ENGINE TEMPERATURE ON OCTANE NUMBER
OCTANE NUMBER AT 212° F. JACKET TEMP Original Waukesha Unit
OCTANE NUMBER AT 350° F. JACKET TEMP Modified Delco Unit
Line of Equality
LEGEND
Natural Gasolines
Ethyl Natural Gasolines
Other Gasolines
Other Ethyl Gasolines

Plate 3.

porations have been organized. Strong arm men and payoff men have been part of this highly organized racket.

Evasion and Refining

You gentlemen here in Oklahoma are in the very seat of the oil industry and I want to speak very plainly to you, and do not wish to be misunderstood. If every refiner shipping gasoline out of this state realized his real responsibility to himself, the industry and the public, he would refuse to sell to bootleggers, and 50 per cent of the evasion would be impossible. In the course of my investigations I have come in contact with many brokers, jobbers and dealers. In one instance I was informed that within a period of two weeks a very prominent legitimate distributor was approached by several refiners who offered a plan of how he could evade the tax. What can we expect when the man who makes the basic product is undermining legitimate operations by encouraging evasion of the tax?

As an illustration of how far some refiners have gone in helping the racketeering element, I will cite an instance that we discovered in the course of our investigations in Chicago. One of the principal bootleggers purchased several hundred tank cars of gasoline, which the waybills indicated was crude naphtha for further refining. By this procedure the refiner participated in a conspiracy to deceive the state gasoline tax invesigator. However, this matter is now in the courts and I wish to say that we are taking steps to see that the misbilling of petroleum products, which is considered a Federal offense, is given special investigation. Efforts will be made to prosecute violators in the future under the Federal statutes.

Nonsensical Excuse

The excuse of the refiner who is selling to tax evaders is likely to be that he did not know his distributor customer was evading the law. Gentlemen, that is nonsense. If a refiner wants to co-operate in keeping evasion from wrecking the industry he can watch his customers closely enough to know whether any of them are evaders. It will take less investigation than is needed to determine their credit standing. Some knowledge of the prices at which they sell, some discreet inquiries as to what their outlets are and how the outlets are served, some contacting with evasion committees will give all the evidence necessary. And, gentlemen, if refiners won't take that much interest in keeping the oil business out of the grip of racketeers, the battle against evasion is going to be hard indeed. Here in Oklahoma, one of the main bases of the refining industry, I call on refiners to join in this battle to rid the industry of the menace of evasion. If they will dry up the source of supply of the gasoline boolegger the major part of our problem will be solved.

Effect on Prices

Now what are the effects of evasion on prices? It does not require a large amount of price cutting to destroy the normal sales price of any commodity. I can prove to you that one bootlegger can destroy a normal market affecting several states, and that effects of his activities will back right up to the refinery price and even to the price of the crude at the well.

Before the producer can expect an equitable price for his oil at the well there must be a sound tank car price, a sound tank wagon price, a sound service station price. This is not possible when the gasoline bootlegger, in order to acquire gallonage, uses the gasoline tax which he collects from the motorists and fails to pay the state, as a means to gain an advantageous position. He may use either the whole or a part of the tax for the purpose of acquiring new business, and the distributor who legitimately pays his tax is confronted by competition which he cannot meet without reducing his prices to the point of ruinous loss.

Effect on Producer

While you in the State of Oklahoma and other oil-producing states have been crying for increased prices on crude oil, you have not taken into consideration the fact that the price at the well is dependent upon what is received from the motoring public for motor fuel. When a bootlegger, with the advantage of all or a part of the tax which he steals from the state, uses that tax to gain gallonage, he forces legitimate, honest tax paying companies to meet his price. And when he does, what happens to your service station and tank wagon market? It all carries right back to the tank car as well as the production price of your crude.

You can talk all you like about distressed gasoline. This has a serious effect. When a refiner sells 1 bbl. of gasoline and manufactures 3 bbls., builds up his stocks and then looks for a market at any price, what happens? He is going to have to shade the refinery price to get business. And when the refiner sells to the bootlegger or racketeer, who adds to that distressed price an advantage of the gas tax, what is the result? It is needless for me to say to you that chaos in the marketing of gasoline has resulted from this process. Racketeering is the answer to the many price wars that have puzzled the public and legitimate marketing companies.

Effect on Business in General

In my opinion there is nothing that is more vicious and serious than gasoline tax evasion. It not alone affects the oil industry, but all branches of business. When the gasoline tax evader does not pay the state money he collects from the consumer in the form of gasoline taxes, he takes money out of the channels of legitimate trade for use in his illegitimate operations. He also assists in increasing taxes on all other commodities.

When one dealer cheats on the tax he penalizes other dealers, and eventually the consumer. All expenses of Government and state have to be met by taxes. The theory, of course, is that the owners of property and those best able to pay by means of incomes have to pay all expenses of the Government. Therefore, the tax evader by not paying his share of taxes obliges every tax payer to pay an additional share. It has been found that the gasoline tax evader is not content with merely cheating the state out of the gasoline tax, but likewise cheats the United States Government out of income tax, and we know that if all income tax evaders were forced to pay their taxes, the rate would be reduced so that everybody would be benefited.

Furthermore, the tax evaders do not bank their money, and do not place it into circulation, but keep most of it in currency. What effect has this on legitimate banking? Some of the larger operators have had dummy bank accounts, safety deposit boxes, and have even set up trust funds with their illegitimate profits. We have found that their manner of doing business is harmful to the banking interests, as well as to the community in general; and as for credits, evasion has been one of the most harmful influences on this important branch of business. It causes many losses to legitimate business, as well as to creditors, resulting in bankruptcies. It affects the use of labor, building of roads, and eventually the use of basic materials, etc. In other words there is no branch of industry or finance or Government operation that is not seriously affected by this practice of gasoline tax evasion, from the farmer who buys gasoline for agricultural purposes and is thus exempt from the tax, to the industrial institution that buys petroleum products.

Affects Everybody

The gasoline tax evader, by taking business out of its normal channels forces legitimate business men to curtail their expenses, in order to meet cut prices. This results in unemployment, shaky credits, bank withdrawals and what have you. We have all thought that gasoline tax evasion affected only the petroleum industry. I am trying to point out to you, gentlemen, that evasion affects everybody, from the farm to the banking institution in the big city.

The gasoline tax evader has no scruples, is no respecter of persons or governments. He deprives the state of its revenue, takes money out of the pocket of the consumer, robs the Government under whose flag he lives, weakens the financial structure, and last but not least is a corrupter of morals. He corrupts public officials and demoralizes legitimate oil company employes, and assists materially in tearing down law enforcement and order. Our investigations have disclosed that he is not satisfied with his own criminal operations, but blackmails honest dealers to join with him or give up the "ghost," and go out of business.

I believe I have said enough, gentlemen, about the effect the gasoline tax evader has on general business.

Attitude of Officials

The motor fuel tax plan as adopted throughout the United States without adequate measures to properly enforce it, has left an open door for gasoline tax evasion. Without proper enforcement by state officials the tax has been discriminatory. It has penalized the legitimate companies paying the tax and favored those who, with criminal and willful intent, have failed to pay.

And, gentlemen, let me say to you right here, that if the state governments took as much interest in the actual collection of the tax as they did in the original enactment of the laws, 85 to 90 per cent of our problems would be at an end. No man likes to criticize officials charged with the responsibility of directing the affairs of government. In the course of our investigation we have found two types of state officials. There are those who have been honest in trying to administer enforcement of the act, but owing to lack of appropriation, proper machinery, and men, have not been able to do their entire duty. Then there is the other type of official who right today when he should be co-operating with us, is virtually combating the efforts of the oil industry to see that everybody pays the tax.

We have found lethargy on the part of state officials. We have found them seizing opportunities to criticize us. In some instances state officials charged with the responsibility of collecting the tax have taken the work of the industry as a direct attack on them. This is not so. We want their co-operation. We need their co-operation—and we have offered ours. We believe contests with public officials will gain nothing. We do believe co-operating with them will correct this situation, and the sooner the state officials and the industry get together, the quicker this problem will be solved.

In some instances compromises have been made in connection with delinquent taxes and evasions. This method will never settle the problem. It places a premium on the activities of the bootleggers. There should never be any compromise. In many instances we have found the state has practically financed the bootlegger's operations by failing to collect the tax and by compromising with him when he was found evading the law. In one particular state we found a bootlegger had cheated the state out of $100,000 and he was permitted to settle on the basis of $25,000. It would not take very long to tear down the whole system of taxation if all taxes were collected on this basis.

There should be a spirit of thorough accord between the oil industry and the state officials. They should welcome any effort on the part of the industry to co-operate with them in the collection of the tax.

Conditions in Oklahoma

I have been informed that right here in the State of Oklahoma there are innumerable cases in the hands of state officials where persons should be prosecuted for nonpayment of tax and no definite action has been taken. It has been reported that in Oklahoma in April, 1931, alone, at least 6,000,000 gallons of gasoline were sold without tax reaching the state treasury—a loss of $300,000 in that one month. Actual gasoline tax collections in Oklahoma declined nearly 12 per cent, coincident with an increase of 37 per cent in the sale of tax exempt motor fuel. Exemptions in this State for the first quarter of 1931 showed an increase of almost 95 per cent. Even though you have had an increase in the gasoline tax, there has been a decrease in the receipts, and, for example, in the adjoining State of Missouri where economic conditions are much the same, but where a 2-cent tax exists in comparison to Oklahoma's 5-cent tax, there has been a material increase in revenue. I understand, however, that effective January 1 the gasoline tax in Oklahoma reverted to 4 cents per gallon. This will indeed mean considerable in combating evasion.

Gasoline tax evasion goes hand and hand with tax exemptions, and many of the serious difficulties resulting in decreased net revenues are due in part to this problem.

Remedies

The new type of racketeer who has made his appearance in the business must either be driven out or the legitimate companies must submit to him. The tax racket that has threatened to drive the little independent operators out of the business has likewise affected the major companies, but they have been awakened and are now combating this vicious evil and are seeking your support. It is only through nationwide co-operation of all branches of the industry uniting for aggressive combat that we will win the fight. The following remedies are necessary:

1. The governors of the various states must take a keen interest in seeing that the motor fuel tax departments are properly equipped to collect the taxes and rigidly enforce the act.

2. Oil companies should refuse to sell gasoline to illegitimate and unscrupulous operators who use it for the purpose of tearing down legitimate and honest companies.

3. The motor fuel tax laws must be studied and provided with sufficient teeth to properly and effectively stamp out tax evaders.

4. Enforcement of the act must be thorough and complete. Tax exemption clauses must be eliminated from laws.

5. There must be continued publicity to inform the public currently of what effect gasoline tax evasion is having on them.

In the State of Illinois, our fight started in July, 1931, and from that month to October the State of Illinois collected $725,000 more in gasoline taxes than for the same period in the previous year, without increased consumption of gasoline.

In Michigan during the month of October the increase was $100,000 over the year previous and in November $73,000 increase without increased consumption.

Conclusion

Gentlemen, I could go on and on pointing out to you the seriousness of this problem, but I want to say that talking will never meet the problem. Action—aggressive, concerted action is what is necessary, and everyone of you must stand back of your state gasoline tax evasion committee if and when it is organized, and I promise you that once you get control, better conditions will result in the marketing end of the business.

The racketeer must go. The power is in your hands. Let us stand together in a united front, and when general business conditions are readjusted, our present fight on the gasoline tax evader will pay us dividends.

J. F. ARCHBOLD ESTATE

NEW YORK, Jan. 18.—John F. Archbold, former head of the Prairie Oil Co., who died January 5, 1930, left a gross estate of $15,176,761, and a net estate of $14,097,597, a transfer tax appraisal just filed disclosed. The greater part of the estate was in securities valued at $14,925,301. The estate goes to the widow and three children, all of New York, except for a $5,000 legacy to Henry E. Irving at Stoneville, N. C.

FITZGERALD SERIOUSLY ILL

John W. Fitzgerald, well known Bartlesville, Okla., oil producer is dangerously ill in the Memorial Hospital in that city. Friends of Mr. Fitzgerald are endeavoring to locate his brother Daniel.

Late Completions On Both Sides of N. Y.-Penn Border

CORNING, N. Y., Jan. 16.—Cunningham Oil & Gas Co. completed a 2,500,000-foot initial gas producer on the Crookston lot in the village of Wayne, N. Y.

J. B. Reed and others' No. 1 Snyder in Wayne village is a 3,500,000-foot well on its initial gauge.

The Pleasant Valley Gas Wells Syndicate had a good showing of gas at 5'0 feet in its test near Pleasant Valley, in the Hammondsport-Bath area in Steuben County.

The J. B. Reed Syndicate completed the No. 1 Dykes, in Wayne. The well gauged around 2,000,000 feet the first day.

The Belmont Quadrangle Drilling Co.'s No. 1 Audrey was good for 1,000,000 feet of sour gas. It is in the Dundee Field, in Yates County.

In the Tioga, Pennsylvania, Field the Allegany Gas Co.'s No. 1 E. J. Hall in Farmington Township, Tioga County, was good for 8,309,000 feet the first 24-hour test. It is producing from sand at a total depth of 4,142 feet.

The Penn United Gas Co.'s No. 1 Willston was reported drilling below 3,-550 feet. Structurally it was showing up favorably. The Mutual Natural Gas Co.'s No. 1 Dana Learn was ready to drill in when last heard from.

The Bradford-Tioga Oil & Gas Co. has made location for a test in the Ray Ingham property near Sayre, Pa., in northern Bradford County, which lies east of Tioga County.

Paul A. Schoelfopf, president of Niagara Hudson Power Corp., is quoted as saying that the introduction of natural gas service into Syracuse did not necessarily indicate that the company was preparing to extend similar facilities into other cities in its territory.

"We will move slowly and experiment further," he said, "before we definitely commit ourselves to any plan leading to extension of natural gas service within the State."

EAST TEXAS PRORATION HEARING IS POSTPONED

AUSTIN, Tex., Jan. 18.—The Railroad Commission announced Monday that action toward calling the hearing requested by Gov. Ross S. Sterling and recommended by Atty. Gen. James V. Allred for the promulgation of new conservation rules in the East Texas oil field as a standby in case martial law is lifted or is destroyed by pending federal court litigation will be withheld until Commissioner Lon A. Smith returns from Washington.

HALLIBURTON UPHELD

A decision upholding the validity of oil well cementing patents of Erle P. Halliburton has been issued by the United States Circuit Court of Appeals at Denver. This appeal was an outgrowth of a suit in a federal district court of Erle P. Halliburton and Halliburton Oil Well Cementing Co. vs. Independent Oil Well Cementing Co. and others. The case was tried in May, 1930, before Judge John C. Pollock, who ruled the Halliburton patents valid and infringed, granted an injunction against Independent Oil Well Cementing Co. and ordered that a special master be appointed to make an accounting of the profits and fix damages. The Independent Oil Well Cementing Co. appealed and continued to operate under an appeal bond. The patents involved are those connected with the Halliburton mixer and the process of synchronously mixing and placed the cement.

OUSTER SUIT FEBRUARY 2

AUSTIN, Tex., Jan. 18.—Atty. Gen. James V. Allred announced here that the ouster suit against 15 oil companies and 2 marketing associations will start February 2.

OFFICIAL ANNOUNCEMENT IS MADE OF MERGER

(Continued from Page 24)

was rapidly expanded to include production, pipe lines and refining. This expansion, with which Mr. Gallagher was closely identified, was followed by the discovery and development of such famous pools as Ventura and Signal Hill, in which the Shell had a substantial interest, as well as in other important producing areas.

Mr. Gallagher is a director and vice president at large of the American Petroleum Institute and is active in the organized activities of the oil industry on the Pacific Coast.

Mr. Gallagher was born in Hamilton, Canada, in November, 1883. Prior to entering the oil business in 1910 he was engaged in looking after California properties in which his family was largely interested.

The permanent board of directors of the proposed Consolidated Oil Corp. will be chosen later. A temporary board has been unofficially announced as containing the following well-known names: P. D. C. Ball, F. H. Bartlett, J. W. Carnes, Sheldon Clark, R. L. Clarkson, C. E. Crawley, A. W. Cutten, J. Fletcher Farrell, W. S. Fitzpatrick, Clark H. Countz, Samuel L. Fuller, Dana H. Kelsey, George MacDonald, Nelson K. Moody, William P. Philips, H. H. Rogers, J. R. Simpson, E. W. Sinclair, H. F. Sinclair, George H. Taber, Jr., E. V. R. Thayer, P. W. Thirtle, E. R. Tinker, Alvin Untermeyer, Elisha Walker and A. E. Watts.

Financial Statement

Commenting on the pro forma consolidated statement of assets and liabilities of the three companies as of May 31, 1931, the Wall Street Journal says:

"Some radical changes are reflected in the pro forma balance sheet as of May 31, 1931, showing the combined assets and liabilities of Sinclair Consolidated Oil Corp., Prairie Oil & Gas Co. and Prairie Pipe Line Co., when taken in comparison with the balance sheets at the close of 1930.

"Prairie Pipe Line Co. at the end of 1930 had government securities totaling $49,461,572. On May 31 last year the company had $13,235,710 in cash and $14,152,040 in U. S. Government and other marketable securities, or a total of $27,387,750. A new item appeared in the asset side of the company's balance sheet, namely, $28,853,317 representing notes and accounts receivable, due from Prairie Oil & Gas Co.

Prairie Oil Notes Paid Off

"Whereas Prairie Oil & Gas Co. at the end of 1930 had cash of $2,271,051, it was able as a result of the loan from Prairie Pipe Line Co. to pay off notes payable amounting to $20,000,000, and on May 31 last year had $16,061,536 cash. The company's storage of crude oil at the close of 1930 was carried on its balance sheet at $79,245,703, but on May 31 the valuation had been reduced to $27,-614,176, representing the lower of cost or market. The storage is currently estimated at 50,000,000 bbls. Prairie Oil's fixed asset valuation of $81,234,591 as of December 31, 1930, after the deduction of depreciation and depletion, appears on the May 31, 1931, pro forma balance sheet at $61,608,066, a reduction of approximately $20,000,000.

"Sinclair Consolidated Oil Corp.'s net fixed assets are carried in the May 31, 1931, pro forma statement at $216,469,-624, compared with $285,923,421 five months previously. Investments in controlled and other companies, carried at cost of $29,967,894 at the end of 1930, against which the company set up a reserve of $7,607,695, are shown in the pro forma balance sheet at a reduced valuation of $16,964,905, which also includes advances to companies.

"At the end of May last year, Sinclair had cash of $21,093,908, which compared with $35,794,975 at the preceding year-end, but still exceeded the total amount of current liabilities. Sinclair's inventories of crude oil and refined products were reduced $1,809,198 in valuation."

TEXAS DIVISION MEETING

DALLAS, Tex., Jan. 18.—Directors of the Mid-Continent Oil and Gas Association, Texas division, met at Dallas, January 16, and announced that the annual meeting would be held within the next 30 days, definite date not being set. The directors also decided to take official action against any increase in gasoline tax, either by state or federal government. E. T. Moore, president of the Simms Oil Co., Dallas, president of the Texas division, presided at the meeting.

GOLF COURSE IN EAST TEXAS

The Humble Golf Club has opened a nine-hole golf course adjacent to the Humble Oil & Refining Co.'s camp at Pistol Hill near Kilgore, Tex. W. G. Jaynes built the course; Supt. L. C. Peters of the Humble Oil & Refining Co., is president and Brady King is secretary-treasurer of the club which has 12 charter members. Length of the fairways averages 240 yards, and the course is in excellent shape for playing.

STANOLIND OIL & GAS CHANGES IN PERSONNEL

A number of important appointments and changes in personnel made by the Stanolind Oil & Gas Co. recently have been made public by Frank O. Prior, president of the company.

Edgar F. Bullard, director in charge of the exploration department and chief geologist, has been made a vice president assigned to executive duties in connection with the general operations of the Stanolind Oil & Gas Co.

F. J. Keleher, secretary and treasurer, has been made a director.

The two appointments, while just announced, are made retroactive as of January 1. President Prior also announced some changes in the exploration department at general offices in Tulsa and at the Texas headquarters in Fort Worth.

A. L. Solliday, formerly head of the land department, has been made manager of the exploration department, succeeding Mr. Bullard, promoted.

H. T. Morley, division manager at Fort Worth, has been made chief geologist with headquarters in Tulsa.

George W. Clarke, now manager of land department of the Oklahoma company, and a former Dixie Oil Co. land man, has been made head of the land department.

A. L. Selig, formerly division geologist at Fort Worth, becomes division manager of the Texas operations; H. W. Milton, district land man at San Antonio, becomes division land man and assistant secretary with headquarters in Fort Worth. R. H. Feltner becomes district land man at San Antonio.

W. J. Dykeman, Jr., becomes division auditor, vice T. A. Gill.

MORE OIL STORAGE IN FINLAND

Increasing marketing operations by foreign oil companies have developed in Finland, necessitating the construction of considerable storage capacity. A new bulk marine terminal, with storage capacity for 15,000 bbls. was built near Abo, Finland, and Soviet interests are reported planning construction of a terminal of like capacity, also near Abo. The Abo terminals will supply the entire Finland market, west of Helsingfors.

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 77)

ASSOCIATED OIL CO. PRICES

Associated Oil Co. prices effective June 20 are as follows:

Ventura Avenue, 22 gravity, 58 cents, with 2 cents added for each degree upward to and including 30 gravity, which is 74 cents.

Kettleman Hills, 30 gravity and above, 66 cents.

Potrero, 24 gravity, 69 cents, with 2 cents added for each degree upward to 34 gravity which is 69 cents.

General Petroleum Co. in Kettleman Hills, effective January 1, 1932: 33-33.9 degrees, 66 cents; 34-34.9 degrees, 68 cents; 35-35.9 degrees, 70 cents; 36-36.9 degrees, 72 cents; 37-37.9 degrees, 74 cents; 38-38.9 degrees, 76 cents; 39-39.9 degrees 78 cents.

UNION OIL CO. OF CALIFORNIA

Crude Oil Prices for Its Purchases at the Well for Crude Produced in Strict Accordance With the Production Allocations Made by the California Statewide Curtailment Committee Effective 7 a.m., June 20, 1931

(All gravities above these quoted take highest price for that field)

Gravity °A.P.I.	Signal Hill	Alamitos Heights Seal Beach	Huntington Beach	Athens, Bonetrana, Domingues	Torrance	Santa Fe Springs	Playa Del Rey*	E. Coyote, Richfield	Montebello	Santa Paula	Orcutt	Coalinga	Lost Hills	McKittrick, Kern River, Sunset-Midway, Elk Hills, Buena Vista Hills	Gravity °A.P.I.
11-13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	$.50	11-13.9
14-14.9	$ 65	$ 65	$.65	....	$.65	....	....	$.65	$.65	$ 65	$ 55	$ 55	$.55	.55	14-14.9
15-15.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	15-15.9
16-16.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	16-16.9
17-17.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	17-17.9
18-18.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	18-18.9
19-19.9	.65	.65	.65	....	.65	....	$ 65	.65	.65	.65	.55	.55	.55	.55	19-19.9
20-20.9	.65	.65	.65	....	.65	....	.65	.65	.65	.65	.56	.55	.55	.55	20-20.9
21-21.9	.65	.65	.65	....	.65	....	.66	.66	.65	.65	.57	.55	.57	.55	21-21.9
22-22.9	.65	.65	.65	....	.66	....	.67	.67	.65	.65	.59	.55	.59	.56	22-22.9
23-23.9	.67	.67	.67	....	.67	....	.68	.68	.65	.65	.61	.55	.60	.58	23-23.9
24-24.9	.69	.69	.69	$.69	.68	$.65	.69	.69	.65	.66	.63	.55	.62	.61	24-24.9
25-25.9	.71	.71	.71	.71	.70	.65	.70	.70	.65	.68	.65	.57	.64	.64	25-25.9
26-26.9	.73	.73	.73	.73	....	.65	....	.72	....	.70	.67	....	.66	.66	26-26.9
27-27.9	.75	.75	.75	.75	....	.68	....	.74	....	.72	....	....	.67	.68	27-27.9
28-28.9	.77	....	....	.77	....	.71	....	....	....	.74	....	....	.69	.71	28-28.9
29-29.9	.79	....	....	.79	....	.73	....	....	....	.76	....	....	.71	.74	29-29.9
30-30.9	.81	....	....	.81	....	.75	....	....	....	.78	....	....	.72	.76	30-30.9
31-31.9	....	....	....	.83	....	.78	....	....	....	....	....	....	....	....	31-31.9
32-32.9	....	....	....	.85	....	80	....	....	....	....	....	....	....	....	32-32.9
33-33.9	....	....	....	.87	....	.83	....	....	....	....	....	....	....	....	33-33.9
34-34.9	....	....	....	.89	....	.85	....	....	....	....	....	....	....	....	34-34.9

*Subject to a gathering charge of 5 cents per barrel.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

DETERMINING MOISTURE IN GAS

Would you advise me as to the details of the standard phosphorous pentoxide gravimetric method for determining the moisture content of a gas?—C. C. C.

All gas contains some water, the maximum saturation depending upon temperature and pressure. Natural gas gets its water as it moves in the underground strata where it may come in contact with large volumes of natural water or the water may be introduced by artificial means, as where it is put into a key well to drive the gas into adjoining wells. Water vapor is introduced into refinery gas through the small quantity of water carried in the crude oil charged to the stills and by the steam used in the stills. The moisture content of natural gas may be a source of interrupted service in the transporting and delivery systems through the accumulation of water in the low places of the lines. It is the practice to place drains or traps in such places to remove any water that condenses because of the lowered temperature. When adequate protection is not provided this water may freeze during the winter season and if there is sufficient accumulation completely plug the line and thereby shut off the gas.

The quantity of moisture found in natural gas after passing through a pipe line will seldom exceed 3 per cent and as delivered to the consumer is usually about 1 per cent.

The drying of natural gas takes place incidental to the removal of the gasoline in the natural gasoline plants because any method that will serve to remove the gasoline will also at the same time take out the moisture. The activative charcoal, used in the charcoal process, is of course a drying agent.

The analytical methods for the determination of moisture in gas are based on the use of a suitable deliquescent substance. An exception to this is when making use of the fractional method with liquid air. In this the moisture may be removed, and the quantity obtained, during the gradual lowering of the temperature. The deliquescent chemicals used are anhydrous calcium chloride and phosphorous pentoxide. The pentoxide taking up any water to form phosphoric acid, the calcium chloride simply goes into solution.

The container may be a straight drying tube of a U-shaped tube. The tube must be absolutely dry and closed with perforated corks fitted with tubes closed with rubber caps. The drying material is quickly packed into the tube, with frequent layers of glass wool or absorbent cotton, and weighed with the caps. The increase of weight after passing a measured quantity of gas is considered to be water. Exact determinations require the removal of any carbon dioxide. One form of using phosphorous pentoxide is to coat dry pumice and use this for packing the tube. If carbon dioxide and hydrogen sulphide are known to be present they may be first removed by passing the gas through a trap or tower containing sodium hydroxide solution.

TREATING CRUDE OIL

We would appreciate information regarding the cost of treating crude oil run to stock tanks to make same acceptable to pipe line companies taking the oil in the various fields in the United States. Of course to be considered in this price would be the chemicals now used, labor required, the wear and tear on the equipment; also, if other methods are used, the total cost?—F. M. C.

Considerable quantities of crude oil have to be treated, in order to make them acceptable for delivery to the pipe lines, because of the impurities present in these oils as produced. The impurities differ in the several districts, frequently from lease to lease and often from well to well. The important objectionable substances that are removed, or reduced in quantity, include water, solid material, wax and hydrogen sulphide. Most of the treating of crude oil in the field is confined to the removal of water and solid material because all of the pipe lines enforce a specification covering these; that is a maximum of 2 per cent total. However, an emulsified oil is not accepted, even when the test may not show an objectionable quantity of water or sediment, because it is not of "pipe line quality."

The methods for separating oil of pipe line quality from a cut oil, or from oil which simply contains water and sand, vary with the oil and local conditions. Settling, with or without the aid of heat, is the simplest and in most extensive use. Chemical treatment, electrical dehydration, centrifugal machines and numerous combinations are among the better known methods. Treating plants of this type may take care of the production from one or several leases or they may be of sufficient capacity to treat the oil from a number of properties. The single lease plant is the usual and costs the least, from $1,000 to $15,000, the large extensive plants cost from $50,000 up.

In the Mid-Continent district the combination of settling, heating and the addition of the chemical known as Tret-O-Lite is widely used. A plant of this character handling oil from several leases, which varied from 34° to 46° A.P.I. gravity, has furnished the details which are summarized as follows: Barrels treated, 114,461; water separated, 54,079 bbls.; oil recovered, 60,282 bbls.; recovery per barrel chemical, 123; chemical used, 491 gallons; kerosene used, 493 gallons; cost per barrel for chemical, $0.0177; cost total per barrel, $0.0184. The treating temperature varied from atmospheric to 160° F. No account is kept of the labor cost, interest, and other items; these would about double the cost.

Bulletin 250, U. S. Bureau of Mines, by D. B. Dow, Oil Field Emulsions, contains extensive descriptions of the several methods used for treating emulsified oil. The cost figures following are from this bulletin:

Cut Oil Treating Costs

Process—	Cost per barrel of oil recovered
Centrifugal	$ 0.06-0.25
Chemical (Tret-O-Lite)	0.003-0.14
Electrical (Cottrell)	0.0211-0.05
Electrical (National)	0.018-0.024

Where the process is more extensive than mere settling of the oil, it appears that a reasonable cost for treating cut oil will vary from 1 to 6 cents a barrel, on the basis of the oil recovered.

SMALL STILLS FOR LABORATORY INVESTIGATIONS

Information is desired covering a small refining apparatus of one barrel capacity for separating all the products of petroleum, including the cracking process. It s ms to me that I saw in The Oil and Gas Journal, some time back, directions for making such a plant.—W. T. G.

Laboratory scale stills for investigating petroleum vary from 1 gallon upward. The gallon size may be made from a flanged bull nipple to which is bolted a cover provided with connections, inlet and outlet, and thermometer well. A 6-inch nipple about 12 inches long will do. A similar set up, with the addition of a pressure still gauge, will serve for a cracking still. The outlet vapor line must be connected with a suitable condenser and all lines valved. Asbestos packing and gaskets are also required.

The building of a laboratory still of sufficient capacity to handle 1 barrel or more should follow the established principles surrounding refinery stills. Steam coils and a manhole for cleaning out are necessary. An oil level gauge is advisable. Good workmanship is essential, in addition to safe materials, for 1 barrel of oil is enough to furnish a good size blaze which may be of serious consequence. No attempt should be made to build a still of large capacity without the supervision of one who is fully qualified through refinery experience.

The Oil and Gas Journal has not published any article giving the details of stills for plant scale experiments.

OCTANE NUMBER GASOLINE FROM EAST TEXAS CRUDE

Will you kindly advise me of the octane number on 60/62 gravity 420° endpoint gasoline obtained by straight distillation from Longview, East Texas, crude? I would also like to know what effect an increase in endpoint to say 450° F. would have on octane number?—J. A. R.

Examinations of samples of gasoline obtained by direct distillation of East Texas crude have indicated that a gasoline of about 57° A.P.I. gravity will give a knock rating of 57 octane number. When the gravity of this is raised to 60/62 by the addition of natural gasoline, the knock rating will be raised 2 or 3 octane numbers.

It is the usual rule that increase of endpoint tends to lower the knock rating. For a given stock for each 25° F. increase in the endpoint a decrease of about 4 octane numbers may be expected. When the endpoint of gasoline from East Texas petroleum is increased to 450° F. there is a lowering of the gravity and the product tests between 52 and 54 octane number.

SOLUBILITY OF GASES IN PETROLEUM

Are there any definite figures showing the solvent power of crude oil for gases, such as methane and carbon dioxide?—J. E. K.

All of the hydrocarbon gases are soluble in petroleum, the degree of solubility, in the case of a light oil, may be of the order of five to one volume of oil. The lower the initial boiling point of a crude oil the higher the quantity of gases in solution, the dissolved gases, therefore, materially influencing the boiling point. Any petroleum boiling below 97° F., the boiling point of pentane, must contain some of the lower members of the paraffin series of hydrocarbons. In fact, it is the control of the lighter hydrocarbons propane, butane and pentane that has enabled the refiner to produce a gasoline with desirable starting qualities and yet the volatility not so high that vapor lock will result when it is used in the automobile engine.

The heavier petroleums, also the higher petroleum distillates, absorb less of the gaseous hydrocarbons than the lighter oils and lower boiling distillates. Gurwitsch-Moore, Page 195, "The solvent capacity of the distillates for methane decreases with their increase in molecular weight. One gram of petroleum ether at 20° C., and at 1 atmosphere pressure, dissolves 1.34 cc. of methane; the fraction from 65° to 100° dissolves 0.84 cc.; the fraction 100° to 150° dissolves 0.66 cc.; the kerosene fraction 0.56 cc., and paraffin oil 0.44 cc."

From the same authority, Page 196, may be obtained the solubility of several inorganic gases. It is stated that carbon dioxide at 20° C. has an absorption coefficient in petroleum of 1.17, as against 0.901 in water at the same temperature. Quoting from this source:

"It is remarkable that all these gases (inorganic), even carbon dioxide, are more readily soluble in kerosene than in water. As the kerosene is refined and thoroughly freed from unsaturated compounds, the formation of additive compounds with the gases is excluded, and simple absorption only can take place."

It may be of interest to add that larger quantities of gases will be absorbed by those mineral oils containing unsaturated compounds. Certain heavy oils have been shown to take up as much as 25 per cent of their weight of sulphur dioxide, or 10 times as much as water. When these oils are refined with sulphuric acid, the absorption is less. This suggests that in such cases part of the gas must have been used to form addition compounds.

It may be advisable to mention that the absorption process for the extraction of gasoline from natural gas is based on the solubility of the hydrocarbons in a mineral oil, mineral seal of about 30° to 36° A.P.I., which, however, has been replaced with naphtha in many plants. Burrell, Recovery of Gasoline From Natural Gas, Page 114, states: "The solubility of pure methane in mineral seal oil is about 11.5 per cent and of ethane 68.5 per cent. A natural gas containing only methane as the paraffin hydrocarbon will show 11 to 12 per cent absorption and indicate no gasoline content. Natural gas exceedingly rich in gasoline representing an extreme case of 8 to 10 gallons of gasoline per 1,000 cubic feet will be soluble to the extent of 70 to 80 per cent. The high methane content even in these high gasoline gases reduces the absorption very much below the absorption percentages obtained with the pure higher paraffins."

Summary of Operations in All Fields, December, 1931

SUMMARY OF ALL FIELDS

Wells Completed

	Comp.	Prod.	Dry	Gas
Eastern	166	567	43	45
Central Ohio	47	312	12	24
Lima	11	342	1	3
Indiana	15	280	5	5
Michigan	15	2,950	6	1
Kentucky	49	1,460	11	8
Illinois	0	0	0	0
Kansas	28	10,120	5	3
Oklahoma	54	64,962	16	13
North Central Texas	65	1,461	34	4
E. Cent. and E. Tex.	465	*50,131	8	0
East Texas gas field	2	0	1	1
West Texas	14	3,068	6	0
Panhandle Texas	10	1,814	0	3
Gulf Coast	34	21,176	12	2
Southwest Texas	58	6,154	29	5
North Louisiana	16	120	8	6
Arkansas	3	50	2	0
Mississippi	6	0	1	5
Montana	3	200	2	0
Wyoming	3	700	1	0
Colorado	0	0	0	0
New Mexico	4	2,524	1	1
Total December	1,068	169,391	204	129
Total November	1,249	178,283	232	161
Difference	181	8,892	28	32

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Eastern	45	160	205
Central Ohio	23	83	106
Lima	3	17	20
Indiana	4	55	59
Michigan	66	88	154
Kentucky	7	65	72
Missouri	0	1	1
Tennessee	0	14	14
Illinois	1	20	21
Kansas	30	122	152
Oklahoma	60	247	307
North Central Texas	45	114	159
E. Central and E. Texas	240	297	537
East Texas gas field	4	33	37
West Texas	9	81	90
Panhandle Texas	11	41	52
Gulf Coast	6	86	92
Southwest Texas	21	91	112
North Louisiana	15	52	67
Arkansas	9	27	36
Mississippi	9	20	29
Alabama	2	3	5
Montana	16	56	72
Wyoming	11	67	78
Colorado	13	72	85
New Mexico	4	50	54
Utah	1	19	20
Total December	655	1,981	2,636
Total November	687	2,010	2,697
Difference	32	29	61

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Alfalfa	0	2	2
Atoka	2	1	3
Beckham	1	4	5
Blaine	0	1	1
Bryan	0	2	2
Caddo	0	4	4
Canadian	0	1	1
Coal	0	2	2
Carter	2	3	5
Cherokee	0	1	1
Cleveland	1	0	1
Comanche	0	3	3
Creek	6	31	37
Garfield	2	2	4
Garvin	0	1	1
Greer	0	2	2
Grant	1	1	2
Hughes	1	4	5
Haskell	0	3	3
Jefferson	0	2	2
Kay	0	5	5
Kiowa	0	1	1
Latimer	0	3	3
Le Flore	0	1	1
Lincoln	0	4	4
Logan	0	3	3
Love	0	3	3
McIntosh	0	2	2
Marshall	0	4	4
Murray	0	1	1
Muskogee	5	11	16
Noble	1	8	9
Okfuskee	2	6	8
Oklahoma	18	45	63
Okmulgee	1	8	9
Osage	2	5	7
Pawnee	2	12	14
Payne	0	2	2
Pittsburg	1	4	5
Pontotoc	0	5	5
Pottawatomie	2	2	4
Roger Mills	0	2	2
Seminole	3	13	16
Stephens	3	4	7
Texas	0	1	1
Tulsa	1	10	11
Washita	0	2	2
Wagoner	3	10	13
Total Dec.	60	247	307
Total Nov.	51	230	281
Difference	9	17	26

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carter	1	0	1	0
Creek	16	645	4	5
Grady	1	0	1	0
Kiowa	1	0	1	0
Latimer	1	0	0	1
Marshall	2	36	1	0
Muskogee	8	20	4	3
Okfuskee	1	100	0	0
Oklahoma	10	61,322	0	0
Okmulgee	3	8	1	0
Pittsburg	1	0	0	1
Pontotoc	1	200	0	0
Seminole	1	2,596	0	0
Stephens	3	0	1	2
Sequoyah	1	0	1	0
Tulsa	1	0	0	1
Wagoner	2	35	1	0
Total Dec.	54	64,962	16	13
Total Nov.	54	32,321	19	9
Difference	0	32,641	3	4

WELLS COMPLETED

CARTER COUNTY

23-2s-2w Norris, J. E. McCarty 1 ..... dry

Wells completed 1
Dry 1

CREEK COUNTY

5-16-11 Chapman, Lee McClung et al 2 dry
3-16-12 Whetstone, S. W. Anthony 8... gas
13-19- 8 Travis, Gled Oil Co. 4 75
29-19- 8 Evans, Marbles et al 1 ..... dry
7-19-10 Burnett, Holmes Drlg. Co. 3.. [illegible]
18-17-10 Adams, Curtis Oil Co. et al 1-A gas
21-15- 8 Wilson, Shamblin & Smith et al 1-A ..... dry
26-19- 8 McGee, Gled Oil Co. 1 25
4-17-10 Watashe, N. D. Gentner et al 1-A ..... dry
19-17-10 Jacants, A. B. Ice 1 ..... gas
35-17-10 Bucktrot, Bryan Pet. Co. 2 ... gas
32-17-12 Stewart, Wilrough Oil Co. et al 2 15
18-14- 9 Wilson, C. G. Tibbens 1 175
18-19- 9 Weaver, A. A. Bailey et al 4.. 230
20-19- 9 Carter, Phillips Pet. Co. and Gled Oil Co. 7 120
3-16-12 Whetstone, S. W. Anthony 9.. gas

Wells completed 16
Production 645
Dry 4
Gas 5
Gas production 6,750,000

GRADY COUNTY

31-4-7w Brown, H. O. Pope 1 ..... dry

Wells completed 1
Dry 1

KIOWA COUNTY

31-7-14w Potts, Arrasmith & Walker 1. dry

Wells completed 1
Dry 1

LATIMER COUNTY

1-6-22 Fitzgerald, Choctaw Gas Co. 1. gas

Wells completed 1
Gas 1
Gas production 2,000,000

MARSHALL COUNTY

30-5s-6 West, Rutland, M. A. Neff et al 1 36
24-5s-5 Fee, D. B. Taliaferro et al 1 .. dry

Wells completed 2
Production 36
Dry 1

MUSKOGEE COUNTY

8-15-18 Spaulding, Ash Bros. 1 ..... gas
28-16-15 Rowe, J. Aggas 1-A ..... dry
8-15-18 Spaulding, H. L. Jolly 2 .... gas
10-15-18 Rowsey, Dunbar & Urban 1 .. dry
19-14-17 James, E. Price 1-A..... dry
23-16-15 Richards, Mack Drlg. Co. 6... 20
16-14-18 I. Durant, J. H. McDonald 4.. dry
17-13-16 London, Robinson Oil Corp. 2 . gas

Wells completed 8
Production 20
Dry 4
Gas 3
Gas production 21,500,000

OKMULGEE COUNTY

29-13-13 Smith, D. M. Logan 1-A ..... dry
15-13-14 Reynolds, Penrod & Thompson 12 3
35-14-14 Anderson, J. L. Selby 36 5

Wells completed 3
Production 8
Dry 1

OKLAHOMA COUNTY

3-11-3w Grace, Hall & Briscoe and Mabee 1 ..... [1]1058
Dehn, Phillips Pet. Co. 1.... [1]10805
22-11-3w Canning, Continental Oil Co. et al 1 ..... [4]6075
26-11-3w South Glendale, I.T.I. Oil Co. et al 1 ..... [5]5041
27-11-3w Little, I.T.I. Oil Co. et al 1. [7]105
2-11-3w Springer, Phillips Pet. Co. and Clara 1 ..... [7]865
3-11-3w Smith, Denver P. & R. Co. and Anderson & Kerr Co.. [3]9126
10-11-3w Little, Anderson & Prichard and Plains Pet. Corp. 1... [2]1891
15-11-3w Smith, Ocate Oil Co. 1 ..... [6]636
Metcalf, Continental Oil Co. and Anderson & Kerr 1... [5]720

Wells completed 10
Production 61322

[1]Four hours. [2]Six hours. [3]Two hours. [4]Three and one-half hours.

OKFUSKEE COUNTY

7-12-11 L. Harjo, Keaton & Gold 1 ... 100

Wells completed 1
Production 100

PITTSBURG COUNTY

5-8-16 Mattox, J. E. Weible 2 ..... gas

Wells completed 1
Gas 1
Gas production 600,000

PONTOTOC COUNTY

32-5-5 Roper, Stanolind O. & G. Co. 3.. 200

Wells completed 1
Production 200

SEMINOLE COUNTY

20-9-9 Jones, Stanolind O. & G. Co. 2 ..2596

Wells completed 1
Production 2596

STEPHENS COUNTY

8-1s-5w Wilkerson, Murray Pet. Co. 1. dry
28-1s-8w Voss, McAllister et al 1 ..... gas
18-2s-7w Pace-Bristowe, Pace et al 1-A. gas

Wells completed 3
Dry 1
Gas 2
Gas production 2,000,000

SEQUOYAH COUNTY

29-12-22 Sharp, Braman Oil Co. 1 ..... dry

Wells completed 1
Dry 1

TULSA COUNTY

28-19-12 Yargee, H. E. Bridges 1 ..... gas

Wells completed 1
Gas 1
Gas production 300,000

WAGONER COUNTY

28-18-17 G. Childers, J. A. Barbre et al 2 ..... dry
26-18-15 C. Snake, Sheridan Oil Co. et al 1 35

Wells completed 2
Production 35
Dry 1

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Cowley	1	250	0	0
Greenwood	5	60	3	0
Harvey	1	0	1	0
McPherson	9	6,696	0	3
Reno	3	122	1	0
Russell	2	150	0	0
Sedgwick	7	2,842	0	0
Total December	28	10,120	5	3
Total November	31	12,845	8	4
Difference	3	2,725	3	1

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Barber	1	0	1
Barton	0	3	3
Bourbon	0	1	1
Butler	1	4	5
Chase	1	1	2
Clark	0	1	1
Clay	0	1	1
Coffey	0	1	1
Cowley	4	15	19
Dickinson	0	1	1
Ellis	1	0	1
Ellsworth	1	4	5
Finney	0	1	1
Ford	0	2	2
Greenwood	2	10	12
Graham	0	1	1
Harvey	0	3	3
Jefferson	0	1	1
Kingman	1	1	2
Marshall	0	1	1
McPherson	11	28	39
Marion	0	2	2
Morris	1	4	5
Morton	0	1	1
Osage	0	1	1
Rawlins	0	1	1
Reno	0	2	2
Rice	1	5	6
Rush	0	1	1
Russell	1	2	3
Saline	0	1	1
Sedgwick	3	13	16
Sheridan	0	1	1
Stafford	1	1	2
Stevens	0	1	1
Sumner	0	3	3
Trego	0	1	1
Washington	0	1	1
Woodson	0	1	1
Total December	30	122	152
Total November	28	114	142
Difference	2	8	10

WELLS COMPLETED

COWLEY COUNTY

22-32- 4 Townsite, Roth & Faurot 1 ... 250

Wells completed 1
Production 250

GREENWOOD COUNTY

17-24-13 Hinchman "B", Shull Drilling Co. 1 ..... dry
27-23-11 Ellis, Stanolind O. & G. Co. 7. 40
22-23-11 Rice, York State Oil Co. 2 ... dry
6-24-12 Shook, Syndicate Oil Co. 8 ... dry
27-23-11 Winegar, Simmons et al 5 20

Wells completed 5
Production 60
Dry 3

HARVEY COUNTY

32-22-1e Sheridan, J. P. Flanagan 1 ... dry

Wells completed 1
Dry 1

McPHERSON COUNTY

21-19-1w Kaegi, Smith & Ash and Shell Pet. Corp. 2 ..... gas
24-19-2w Gratton, Youker et al 1 743
35-19-2w Drum, Vernon O. & G. Co. and Shell Pet. Corp. 1 1535
30-19-1w Whitwright, W. C. McBride, Inc., 3 ..... gas
1-20-2w McMurry, Wolf Creek Oil Co. et al 1 1382
30-19-1w Lega, Phillips Pet. Co. and Shell Pet. Corp. 1 ..... gas
7-20-1w Meeks, Washoma Oil Co. and Shell Pet. Corp. 1 35
13-19-2w Holt, Carey and The Texas Co. 1 1630
24-19-2w Gratton, Lario Oil Co. and Shell Pet. Corp. 1 1371

Wells completed 9
Production 6696
Gas 3
Gas production 38,011,000

RENO COUNTY

1-23-4w Houry, E. L. Study et al 1 ... 50
12-22-4w Esau, James Madison et al 1. dry
1-23-4w Houry, Study, Turner and Frost Drilling Co. 1 72

Wells completed 3
Production 122
Dry 1

RUSSELL COUNTY

31-12-15w Brungardt, Mid-West Ref. Co. 13 85
6-13-15w Jacobs, The Texas Co. 2 65

Wells completed 2
Production 150

SEDGWICK COUNTY

19-27-2 Eastborough, Derby Oil Co. 2.. 500
Trustee, Fisher & Lauck 8 231
Wheeler, Magnolia Pet. Co. 1... 400
Nagel, Continental Oil Co. 1 ... 15
Trustee, Fisher & Lauck 6 740
Trustee, Fisher & Lauck 9 456
Soukup, Shawver & Derby Oil Co. 1 500

Wells completed 7
Production 2842

EAST TEXAS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Anderson	0	0	0	0	0	1	1
Bowie	1	0	1	0	0	3	3
Cherokee	0	0	0	0	2	2	4
Dallas	0	0	0	0	2	0	2
Delta	0	0	0	0	0	1	1
Ellis	0	0	0	0	0	3	3
Fannin	0	0	0	0	0	2	2
Franklin	0	0	0	0	1	0	1
Gregg	248	27,179	1	0	125	102	227
Henderson	1	0	1	0	0	2	2
Hill	0	0	0	0	0	1	1
Hopkins	0	0	0	0	0	3	3
Houston	0	0	0	0	0	4	4
Kaufman	0	0	0	0	0	1	1
Lamar	1	0	1	0	0	3	3
Leon	0	0	0	0	0	3	3
Morris	0	0	0	0	0	1	1
Nacogdoches	0	0	0	0	1	8	9
Polk	0	0	0	0	0	3	3
Rains	0	0	0	0	0	1	1
Red River	0	0	0	0	1	6	7
Robertson	0	0	0	0	0	2	2
Rockwall	0	0	0	0	0	1	1
Rusk	145	14,890	1	0	79	111	190
Sabine	0	0	0	0	0	1	1
San Augustine	0	0	0	0	2	0	2
Smith	21	1,905	1	0	3	3	6
Titus	0	0	0	0	0	3	3
Upshur	37	3,118	1	0	22	19	41
Tyler	1	0	1	0	0	0	0
Van Zandt	10	3,039	1	0	0	7	7
Wood	0	0	0	0	1	1	2
Total Dec.	465	50,131	8	0	240	297	537
Total Nov.	566	68,979	13	0	265	269	534
Difference	101	18,848	5	0	25	28	3

Note: Initial production based on one hour gauge through various chokes.

WELLS COMPLETED

BOWIE COUNTY

Tom Bell's No. 1 Merritt ..... abd

Wells completed 1
Abandoned 1

GREGG COUNTY

	Prod First hr. (bbls.)
Amerada Pet. Co., No. 2 W. E. Bumpass, through 1-in. tubing choke (½ hr.)..	80
Arkansas Fuel Oil Co., No. 2 A. Lee, through open tubing (½ hr.)	62
Atlantic Oil & Prod. Co., No. 2 Wilson, through 1-in. tubing choke	60
Bailey and Tremble, No. 1 Jones, through 1-in. tubing choke	150
Bond et al, No. 1 J. R. Fenton, through open tubing	110
Cal-Pet Corp., No. 2 Clements, through ¾-in. tubing choke	105
Cox and Hammon, No. 2 fee, through 1-in. tubing choke	70
Day and Armstrong, No. 1 Walker, through 1-in. tubing choke	125
L. J. Everett, No. 1 fee, through 5/16-in. tubing choke (4½ hrs.)	350
Fain and McGaha, No. 1 Allen Tooke, through various chokes	175

F. H. E. Oil Co., No. 2 R. Christian, through various chokes 150
E. E. Fogelson, No. 1 J. B. Doby, through open tubing (10 min.) 87
Gilcrease Oil Co., No. 2 Fenton, through open tubing 100
Glasscock Bros., No. 1 Snoddy, through open tubing 125
Henry Hobbs, No. 1 J. R. Boazman, through open tubing (2/3 hr.) 140
Humble Oil & Ref. Co., No. 3 T. M. Armstrong, through ⅝-in. tubing choke.. 90
Humble Oil & Ref. Co., No. 5 Harris, through ⅝-in. tubing choke 73
Humble Oil & Ref. Co., No. 2 Willingham, through ⅝-in. tubing choke ... 90
Magnolia Pet. Co., No. 1 Everett, through 1-in. tubing choke 198
Magnolia Pet. Co., No. 5 McKinley, through 1-in. tubing choke 160
Magnolia Pet. Co., No. 1 J. A. Darnell, through 1-in. tubing choke 160
Margay Oil Co., No. 2 J. Freeman, through open tubing 75
McMurray and Ruster, No. 1 Snoddy, through open tubing (2/3 hr.) 125
Meridian Oil Co., No. 2 T. W. Lee, through ½-in. tubing choke 64
Mullendore and Berry, No. 2 D. L. Magrill, through 1-in. tubing choke 85
Nash and Windfohr, No. 2 C. Jones, through 1-in. tubing choke 190
Perrin and Fell, No. 2 E. E. Anderson, through 1-in. tubing choke 176
J. L. Sarber, No. 1 W. T. Hall, through 1-in. tubing choke 30
Selby Oil & Gas Co., No. 2 L. C. Ingram, through 1-in. tubing choke (½ hr.) 102
Shell Pet. Co., No. 3 Burnside, through open tubing (½ hr.) 92
Stanolind Oil & Gas Co., No. 2 B. Jones, through opening tubing 189
Barnsdall Oil Co., No. 5 Adams, through 1-in. tubing choke 157
Cal-Pet Corp., No. 4 Clements, through ⅝-in. tubing choke 90
Continental Oil Co., No. 2 Todd, through open tubing (¼ hr.) 89
Corley and Blair, No. 2 W. E. Bumpass, through open tubing (⅝ hr.) 125
Roy Davis, No. 1 J. C. Beamer, through various chokes 135
Deep Rock Oil Co., No. 4 Jones, through various chokes 160
Empire Gas & Fuel Co., No. 1 A. Green, through 1-in. tubing choke (⅛ hr.).. 74
Fain & McGaha, No. 2 Bunknight, through 1-in. tubing choke 220
F. H. E. Oil Co., No. 4 B. C. Christian, through 1-in. tubing choke 110
Gulf Prod. Co., No. 3 Anderson, through ⅝-in. tubing choke 125
Harris et al, No. 1 J. E. DeMoss, through open tubing 160
Humble Oil & Ref. Co., No. 5 A. Carter, through ⅝-in. tubing choke 110
Humble Oil & Ref. Co., No. 2 C. C. Clements, through ⅝-in. tubing choke 28
Humble Oil & Ref. Co., No. 4 H. M. Lawrence, through ⅝-in. tubing choke 116
Iowa-Payne, No. 1 H. York, through ½-in. tubing choke 55
Jones et al, No. 2 Doby, through 1-in. tubing choke 110
Magnolia Pet. Co., No. 1 Foster, through ⅝-in. tubing choke 132
Magnolia Pet. Co., No. 2 Foster, through ⅝-in. tubing choke 148
Magnolia Pet. Co., No. 3 H. L. Foster, through ⅝-in. tubing choke 176
Manzell et al, No. 1 E. L. Walker, through ⅝-in. tubing choke 81
Peterson et al, No. 1 George Ritchie, through various chokes 100
Pilot Oil Co., No. 1 J. C. Bampass, through various chokes 100
Powell and Irion, No. 1 W. A. Horton, through ⅝-in. tubing choke 65
Prairie Oil & Gas Co., No. 1 W. A. York, through ⅝-in. tubing choke... 91
T. S. Schroeder, No. 2 J. C. Bampass, through open tubing (¼ hr.) 75
Shano Oil Co., No. 1 S. G. Smith, through 1-in. tubing choke (⅛ hr.) 38
Stanolind Oil & Gas Co., No. 8 Persons, through open tubing 165
Superior Oil Co., No. 3 Ingram, through 1-in. tubing choke 168
The Texas Co., No. 5 Woods, through open tubing (⅛ hr.) 85
Tidal Oil Co., No. 3 E. N. Nettleton, through open tubing (1/6 hr.) 105
Tidal Oil Co., No. 7 Nettleton, through open tubing (1/6 hr.) 105
Tidal Oil Co., No. 1 Sheppard, through ⅝-inch. tubing choke 135
Tidal Oil Co., No. 3 Sheppard, through open tubing (1/6 hr.) 110
Texas Pacific Coal & Oil Co., No. 3 fee, through ⅝-in. tubing choke 124
J. O. Willingham, No. 1 Negro Church Lot, through open tubing 140
Yount Lee Oil Co., No. 1 Inckel, through 11/16-in. tubing choke 88
Yount Lee Oil Co., No. 2 C. M. Smith, through 11/16-in. tubing choke 82
Arctic Oil Co., No. 1 J. S. King, pinched through tubing 125
T. A. Jonson et al, No. 1 Foltz, pinched through tubing 125
W. C. Snyder, No. 1 B. Grier, through open tubing 110
Magnolia Pet. Co., No. 3 M. B. Huey, through 1-in. tubing choke 198
Paul L. Miller, No. 1 W. H. Anderson, through ⅝-in. tubing choke 100
The Texas Co., No. 4 M. T. Cole, through ⅝-in. tubing choke 135
The Texas Co., No. 6 Elder, through ⅝-in. tubing choke 92
Tidal Oil Co., No. 5 J. R. Beall, through ⅝-in. tubing choke 75
Tidal Oil Co., No. 1 Exie Benson, through open tubing 125
Amerada Pet. Co., No. 2 Bumpass, through 1-in. tubing choke 133
Arkansas Fuel Oil Co., No. 1 F. T. Rembert, through open tubing 120
Atlantic Oil & Prod. Co., No. 2 M. B. Fisher, through open tubing 186
J. W. Clark, No. 1 W. Jones, through 1-in. tubing choke 165
Clark and Cowden, No. 2 J. N. Christian, through ⅝-in. tubing choke 125
Columbia Oil & Gas Co., No. 1-A W. M. Harley, through 11/16-in. tubing choke 86
Cox and Hammon, No. 4 Rodden, through open tubing 180
Day et al, No. 1 J. T. Jeter, through ¼-in. tubing choke (5½ hrs.) 125
Empire Gas & Fuel Oil Co., No. 3 Aiken, through open tubing (¼ hr.) 32
Empire Gas & Fuel Oil Co., No. 2 T. W. Lee, through 1-in. tubing choke, (¼ hr.) 42
Empire Gas & Fuel Co., No. 4 L. Rogers, through open tubing (¼ hr.) ... 53
G. & A. Oil Co., No. 1 Sabine Valley Church, through ⅝-in. tubing choke.. 80
Gilcrease Oil Co., No. 1 Tooke, through open tubing (⅝ hr.) 125
Gulf Prod. Co., No. 2 Judge, through ⅝-in. tubing choke 120
Humble Oil & Ref. Co., No. 6 T. B. Harris, through ⅝-in. tubing choke 100
Humble Oil & Ref. Co., No. 4 W. W. Holland, through ⅝-in. tubing choke. 89
Humble Oil & Ref. Co., No. 4-B D. Johnson, through ⅝-in. tubing choke 113
Humble Oil & Ref. Co., No. 4 G. W. Johnson, through ⅝-in. tubing choke 97
B. K. Issac, No. 1 C. L. Taylor, through 11/16-in. tubing choke 110
Joyner and Achre, No. 1 Missie Young, through ⅝-in. tubing choke 110
Magnolia Pet. Co., No. 6 Davis, through ⅝-in. tubing choke 160
Magnolia Pet. Co., No. 2 McGill, through ⅝-in. tubing choke 130
O. G. Oliphant and Tulsa Oil Co., No. 1 W. M. Wheeler, through open tubing (1/6 hr.) 116
O. W. R. Oil Co., No. 5-B C. E. Davis, through 1-in. tubing choke 140
B. F. Phillips, No. 2 fee, through 1-in. tubing choke 60
Rimmer et al, No. 1 Flint More, through 1-in. tubing choke 165
Selby Oil & Gas Co., No. 2-B Snavely, through 1-in. tubing choke 190
Stanolind Oil & Gas Co. and Simms Oil Co., No. 2-C Flewellen, through open tubing (⅛ hr.) 79
Stanolind-Simms Oil Co., No. 4 Fonville, through open tubing (½ hr.) 88
Stanolind Oil & Gas Co., No. 9 Persons, through open tubing (10 min.)..... 36
Ortiz Oil Co., No. 1 Thad Snoddy, through open tubing 200
Sun Oil Co., No. 1 J. J. Rippen, through 11/16-in. tubing choke 60
Yount Lee Oil Co., No. 1-C M. Smith, through 11/16-in. tubing choke 85
Arkansas Fuel Oil Co., No. 3 Calvin Brown, through open tubing (⅛ hr.). 96
California Consolidated Oil Co., No. 1 P. E. Barton, through ⅛-in. tubing choke 100
Continental Oil Co., No. 5 Crews, through ⅝-in. tubing choke 125
Empire Gas & Fuel Co., No. 1 H. A. Lockhart, through ⅝-in. tubing choke, (⅛ hr.) 60
Everts et al, No. 1 F. Barton, through pinched tubing 125
Gulf Prod. Co., No. 4 Alexander, through ⅝-in. tubing choke 80
Gulf Prod. Co., No. 3 Holt, through ⅝-in. tubing choke 100
Gulf Prod. Co., No. 2 G. Davis, through ⅝-in. tubing choke 100
Gulf Prod. Co., No. 4 Willie Holt, through ⅝-in. tubing choke 115
Gulf Prod. Co., No. 3 M. B. Huey, through ⅝-in. tubing choke 124
Gulf Prod. Co., No. 1 C. Strong, through ⅝-in. tubing choke 92
J. E. Johnston, No. 1 F. Bantuelle, through 1-in. tubing choke (½ hr.). 40
Magnolia Pet. Co., No. 7 Griffin, through 4-in. line and 1-in. tubing choke (5 mins.) 44
W. H. Brown, No. 1 N. Douglass, pinched (24 hrs.) 125
Shell Pet. Corp.'s No. 3 H. T. Neal, through open 2-in. tubing (½ hr.)... 51
Smith et al, No. 1 E. L. Walker, pinched through tubing 125
Mary E. Stephens, No. 1 Abi McElroy, pinched through tubing 125
Sun Oil Co., No. 2 M. T. Cole, through open tubing 190
Winston Oil Co., No. 3 Paul Jones, through open tubing 180
Amerada Pet. Co., No. 2 Burnside, through open tubing 120
Amerada Pet. Co., No. 1 Allen Tooke, through ⅝-in. tubing choke 223
Arkansas Fuel Oil Co., No. 3 Adrian-McCrairy, through open tubing, total depth 3,498 ft. 90
Arkansas Fuel Oil Co., No. 3 M. D. Allison, through open tubing (½ hr.). 92
Arkansas Fuel Oil Co., No. 3 Annie Lee, through open tubing (½ hr.) 63
Arkansas Fuel Oil Co., No. 3 Orms, through open tubing (⅛ hr.) 107
Atlantic Oil & Prod. Co., No. 1-B W. G. Burnside, through 1-in. tubing choke. 150
Atlantic Oil & Prod. Co., No. 1 Clements, through open tubing (1/5 hr.) 37
Atlantic Oil & Prod. Co., No. 1 M. B. Fisher, through open tubing 61
Atlantic Oil & Prod. Co., No. 2 J. Moore, through open tubing 165
Atlantic and Wadley, No. 1 T. W. Lee, through open tubing 170
Atlantic and Wadley, No 1 Turner Estate, through open tubing 170
Ausley and Massengill, No. 1 A. Harris, through 1-in. tubing choke 96
Burnett and Foshee, No. 1 J. Bell, through 1-in. tubing choke 85
Columbia Oil & Gas Co., No. 1-B Christian, through 1-in. tubing choke 125
Cox and Hammon, No. 3 fee, through open tubing (⅛ hr.) 125
Danciger and Manahan, No. 1 M. Christian, through open tubing 200
Deep Rock Oil Co., No. 3 Jones, through open tubing 150
Deep Rock and Amerada Pet. Co., No. 1 Pritchard, through 1-in. tubing choke 125
Edgar et al, No. 1 Stinchon, through 1-in. tubing 76
F. H. E. Oil Co., No. 3 R. Christian, through 11/16 tubing choke 30
Fleming and Kimbell, No. 2 Jettis Barnes, on tubing choke 140
B. A. Gaskill, No. 1 J. A. Godfrey, through 1-in. tubing choke 130
W. M. Gaskill, No. 2 Sam Key, through open tubing 125
Gregg Oil Co., No. 1-C T.P. R.R. Co., through 1-in. tubing choke (⅛ hr.).. 75
H. Hanberry, No. 2 T. L. Brey, through ⅝-in. tubing choke 113
Humble Oil & Ref. Co., No. 1 C. C. Clemmons, through ⅝-in. tubing choke... 39
Humble Oil & Ref. Co., No. 6 A. L. Hughes, through ⅝-in. tubing choke. 54
Island Oil Co., No. 1 Tom Hensley, through open tubing (⅛ hr.)..... 59
Lacy Pet. Co., No. 3 M. Fisher, through open tubing (⅛ hr.) 125
Lucy Pet. Co., No. 1 A. M. Kinsell, through ⅝-in. tubing choke 85
Magnolia Pet. Co., No. 3 L. V. Tuttle, through open tubing 138
J. H. Massey, No. 2 M. Penn, through open tubing (½ hr.) 105
Premier Oil Co., No. 1 Foshee Estate, through open tubing (¼ hr.) 25
Rowan and Nichols, No. 1-B Todd, through 1-in. tubing choke (¼ hr.).. 38
Ruston Drilling Co., No. 1 Thad Snoddy, through ⅝-in. tubing choke 110
Sabinos Oil Co., No. 2-A Collins, through open tubing (½ hr.) 100
Satellite Oil Co., No. 2 Colburn, through open tubing 200
Selby Oil & Gas Co., No. 3 H. R. Snavely (10 min.) 31
Shell Pet. Corp., No. 1 Akin, through tubing (½ hr.) 92
Simms and Russ, No. 2 Flewellen, through 1-in. tubing choke 125
Sinclair Oil & Gas Co., No. 4 J. W. Aiken, through open tubing (5/6 hr.). 125
Stanolind Oil & Gas Co., No. 7 Persons, through open tubing 98
Sun Oil Co., No. 1 Mose Thomas, through 1-in. tubing choke (½ hr.) 36
Superior Oil Co., No. 4 Jones, through 1-in. tubing choke (¼ hr.) 40
Superior Oil Co., No. 2-A H. Prichard, through 1-in. tubing choke (½ hr.).. 53
Tidal Oil Co., No. 3 Lake Devernia, through open tubing 247
Tidal Oil Co., No. 1 Arch Davis, through open tubing 240
Tidal Oil Co., No. 1 Lake Devernia, through tubing 240
W. C. Turnbow, No. 2 J. C. Persons, through 1-in. tubing choke 100
Yount Lee Oil Co., No. 2 Adrian and McCrairy, through 11/16-in. tubing choke 89
Yount Lee Oil Co., No. 1-B Davis, through 11/16-in. tubing choke 76
Yount Lee Oil Co., No. 4 Julie Flemster, through 11/16-in. tubing choke 76
Yount Lee Oil Co., No. 3 Orms, through 11/16-in. tubing choke 95
Yount Lee Oil Co., No. 1 C. L. Taylor, through 11/16-in. tubing choke 94
McDonald and Campbell's No. 1 Church Lot, through 2½-in. tubing choke (¼ hr.) 75
Danciger Oil & Ref. Co., No. 1 H. C. McNeely, through open tubing and casing (5 mins.) 72
E. J. Henion, No. 1 W. C. Griffin, through 1¼-in. tubing choke 125
Magnolia Pet. Co., No. 6 L. A. Griffin, through 4-in. line on casing and ⅝-in. tubing choke (5 mins.) 49
Magnolia Pet. Co., No. 1 Hicks, through 1-in. tubing choke 140
Mullendore and Berry's No. 1 Griffin Davis, through tubing choke 75
Shell Pet. Corp., No. 1-B Bivens, through open 2-in. tubing (½ hr.) 49
Simplex Oil Co., No. 1 J. E. Lawther, through ⅝-in. tubing choke 35
H. R. Smith, No. 1 J. R. Watson, pinched through tubing 125
Stroube and Stroube, No. 1 Elder, through ½-in. tubing choke 50
The Texas Co., No. 7 H. T. Elder, through ⅝-in. tubing choke 92
Witmer and Lander, No. 1 J. N. Acuff, pinched through tubing 125
Arkansas Fuel Oil Co., No. 2-B J. W. Harrison, through open tubing (½ hr.) 84
Arkansas Fuel Oil Co., No. 2-C McKinley, through open tubing (½ hr.).... 192
Arkansas Fuel Oil Co., No. 2 F. T. Rembert, through open tubing (½ hr.)... 89
Atlantic & Pacific, No. 1 B. Robinson.abd
Atlantic Oil & Prod. Co., No. 3-A Burnside, through open tubing 194
Atlantic Oil & Prod. Co., No. 3 Moore, through open tubing 175
Atlantic and Wadley, No. 2 Turner Estate, through open tubing 190
Bailey and Tramble, No. 2 G. Jones, through 1-in. tubing choke 152
Shell Pet. Corp., No. 1 A. King, through open tubing 220
Shell Pet. Corp., No. 2 J. Moore, through choked tubing (½ hr.) 15
Simms and Stanolind Oil & Gas Co., No. 2-B Flewellen, through ⅝-in. tubing choke 89
Stout and Daty, No. 1 W. W. Bradley, through 1-in. tubing choke (⅝ hr.).. 80
Superior Oil Co., No. 4 Ingram, through open tubing (¼ hr.) 56
The Texas Co., No. 2 T. W. Lee, through ⅝-in. tubing choke 167
The Texas Co., No. 1 John Waddell, through 11/16-in. tubing choke 102
Yount Lee Oil Co., No. 2-C Lathrop, through 11/16-in. tubing choke 68
Yount Lee Oil Co., No. 2 J. J. McGrece, through 11/16-in. tubing choke 75
Baggett and Ward, No. 1 Ella Holland .....No gauge
Barrett et al, No. 1 Crim, through ⅝-in. tubing choke 100
Bessie DeMayo et al, No. 2 Exie Benson, through 1-in. tubing choke..... 200
Gulf Prod. Co., No. 7 Hilburn, through ⅝-in. tubing choke (⅛ hr.) 47
Gulf Prod. Co., No. 8 Hilburn, through ⅝-in. tubing choke 110
Equity Oil Corp. and Hayek, No. 1 Episcopal Church, pinched 125
Magnolia Pet. Co., No. 2 M. B. Huey, through ⅝-in. tubing choke 148
Martin et al, No. 1 Trip Elder 30
Prairie Oil & Gas Co., No. 4 John Elder, through ⅝-in. tubing choke 25
Samp Shelburne, No. 1 Lula Martin, pinched through tubing 100
Magnolia Pet. Co., No. 1 N. Radford, through ⅝-in. tubing choke 208
Shell Pet. Corp., No. 1 Nellie Jobe, through open tubing (¼ hr.) 35
The Texas Co., No. 3 Baxter, through ⅝-in. tubing choke 90
The Texas Co., No. 4 Baxter, through ⅝-in. tubing choke 100
Arkansas Fuel Oil Co., No. 4 Allison, through open tubing (⅛ hr.) 60
Arkansas Fuel Oil Co., No. 4 Orms, through open tubing (⅛ hr.) 100
Barnsdall Oil Co.'s No. 4 Adams, through ⅝-in. tubing choke (⅛ hr.) 58
Shapiro and Bass' No. 1 C. C. Clements, through open tubing (⅛ hr.) 70
Harris et al, No. 1 E. T. Norton, pinched through tubing 100
Humble O. & R. Co.'s No. 2 Killingsworth, through ⅝-in. tubing choke .. 105
Will H. McConnell, through pinched tubing 100
Red Star Oil Co.'s No. 1 Lemaire, pinched through tubing 100
Roser & Pendleton, No. 1 S. G. Smith, through open tubing 165
Stanolind O. & G. Co.'s No. 1 Hobart Key, through open tubing (¼ hr.) .. 23
Stanolind and Simms Oil Co.'s No. 10 Persons, through open tubing (¼ hr.) 31
Byrd-Frost Oil Co.'s No. 6 M. B. Huey, through ⅝-in. tubing choke (⅛ hr.) 75
Gulf Prod. Co.'s No. 5 H. C. Alexander, through ⅝-in. tubing choke 120
Gulf Prod. Co.'s No. 9 Hilburn, through ⅝-in. tubing choke 112
Houston and Heep Oil Co.'s No. 3 Hall, through 1-in. tubing choke 175
Lyon Ostron's No. 1 fee, pinched through tubing (24 hrs.) 100
Paul L. Miller's No. 1 L. D. and J. T. Crim, through 1-in. tubing choke ... 60
H. L. Moss' No. 2 Fann Marshall, through open tubing (24 hrs.) 450
Sinclair O. & G. Co.'s No. 4 S. G. Andrews, through open tubing 100
Wolfet Bradley's No. 2 Cole, pinched through tubing (24 hrs.) 100

Wells completed 248
Abandoned 1
Production 27,179

HENDERSON COUNTY

Seven Well Corp.'s No. 1 D. S. Hughes. abd

LAMAR COUNTY

Indian State Oil Co.'s No. 1 T. W. Watson ..... abd

RUSK COUNTY

Acme Oil Co.'s No. 1 Givens, through open tubing 150
Chapman et al, No. 1 Willingham, through 1-in. tubing choke 45
Gulf Prod. Co., No. 2 A. C. Christian, through ⅝-in. tubing choke 112
Humble O. & R. Co., No. 2-A J. E. Sexton, through ⅝-in. tubing choke 111
Bradstreet and Young, No. 1 H. C. Minor, through ⅝-in. tubing choke 70
Long-Henson and Kerr, No. 1 C. O. Christian, pinched through tubing .. 125
Oliphant, No. 2 Poers, through open tubing 150
Albert Plummer, No. 2 J. R. Beall, through ⅝-in. tubing choke 100
Stanolind O. & G. Co., No. 4 Powers, through 2½-in. tubing choke 126
Arkansas Fuel Oil Co., No. 3 Beall, through open tubing 101
Barney Cockburn, No. 1 Nathan Green, through ½-in. tubing choke 90
British-American, No. 2 Murphy, through open tubing 186
Falcon Oil Co., No. 6 T. O. Mason, through open tubing (½ hr.) 25
Golding and Murchison, No. 5 Ida L. Kinney, through 1-in. tubing choke.. 100
Humble O. & R. Co., No. 1-C Ida Holt, through ⅝-in. tubing choke 91
Cordova Union O. & G. Co.'s No. 5 J. S. Bean, pinched through tubing ... 125
Devonian and Gulf Prod. Co., No. 7 R. A. Motley, through ⅝-in. tubing choke 85
Everett Drig. Co., No. 2 Crews, pinched through tubing 125
Robert D. Gordon, No. 1 Brock hrs., pinched through tubing 125
Harry Hanberry, No. 1 L. B. Morse, through ⅝-in. tubing choke 60
Gulf Prod. Co., No. 2-B C. E. Christian, through ⅝-in. tubing choke 115
Gulf Prod. Co., No. 3 Florence, through ⅝-in. tubing choke 105
Humble O. & R. Co., No. 4 Minor, through ⅝-in. tubing choke 123
Humble O. & R. Co., No. 1-A J. T. Sexton, through ⅝-in. tubing choke ... 57
Kathellen Oil Co., No. 3 Peterson, pinched through tubing 125
A. P. Richardson, No. 1 Morse, pinched 125
Magnolia Pet. Co., No. 2 Nat Bean, through open tubing 125
Nolen Rushing et al, No. 1 Geo. Thompson, through ⅝-in. tubing choke 55
Stanolind O. & G. Co., No. 4 Beall, through open tubing 85
Atchinson and Sandifer, No. 1 Overton School, through various chokes 75
Droppleman Dev. Co., No. 2 Cox, through 2-in. tubing choke 78
E. E. Combs, No. 3 Fox, through open tubing (¼ hr.) 44

Ebony Oil Co., No. 2 Deason, through tubing 60
Falcon Oil Co., No. 1 Perkins, through tubing (¼ hr.) 24
W. W. Hinchliffe, No. 1 L. J. Pinkston, through ½-in. tubing choke (½ hr.) 42
Humble O. & R. Co., No. 3 R. A. Barksdale, through ⅝-in. tubing choke .. 99
Humble O. & R. Co., No. 2 Lula Barton, through ¾-in. tubing choke 105
Humble O. & R. Co., No. 5 Jones Fuller, through ⅝-in. tubing choke 100
Humble O. & R. Co., No. 2 J. J. Pitner, through ¾-in. tubing choke 100
Humble O. & R. Co., No. 2 A. Wilson, through ¾-in. tubing choke 101
H. L. Hunt, tr., No. 1 V. E. Reed, through open tubing 60
H. L. Hunt, tr., No. 2 Smith Wilson, through open tubing 165
H. L. Hunt, No. 2 A. B. Wooley, through 2½-in. tubing choke 100
Imperator Oil Co., No. 1 Maxwell, through 1-in. tubing choke 63
J. E. McKee, No. 1 Tolliver, through open tubing 61
R. J. McMurray, No. 1-B Blackwell, through open tubing 160
R. J. McMurray, No. 2 Blackwell, through tubing open (½ hr.) 180
M. & G. Oil Co., No. 1 Lewis DeGuerin, pinched (24 hrs.) 125
Mid-Kansas O. & G. Co., No. 4 M. M. Cross, through tubing 240
Nash and Windfohr, No. 1 Griffin, through tubing 90
Tom C. Patton, No. 1 G. D. Rhodes, through open tubing 165
Smith and Torrans, No. 1 Torrans, through open tubing 160
Sullivan and Burch, No. 1 F. J. Cox, through open tubing 45
The Texas Co., No. 4 Pinkston, through ⅝-in. tubing choke 75
Texas-Jersey Oil Corp., No. 1 G. W. Eaton, through tubing (⅛ hr.) 32
Darby Oil Co., No. 2 C. O. Christian, through ⅝-in. tubing choke (10 min.) 25
Griffith Bros., No. 1 S. E. Brox, pinched through tubing 125
Gulf Prod. Co., No. 9-C C. E. Christian, through ⅝-in. tubing choke 122
Karona and Houston Oil Co., No. 1 J. N. Peterson, through ⅝-in. tubing choke 250
Jackson-Wise and Markham, No. 1 C. O. Christian, through open tubing .. 200
Magnolia Pet. Co., No. 1 S. E. Brox, through 4-in. line on casing and ⅝-in. tubing choke (¼ hr.) 108
Walton, No. 2 C. E. Christian, through 1-in. tubing choke (1/6 hr.) 25
Wheelock and Collins, No. 5 Dick Wells, pinched through tubing 125
Arkansas Fuel Oil Co., No. 3 G. Ferguson, through open tubing (½ hr.) .. 59
Arkansas Fuel Oil Co., No. 4 Wheelis, through open tubing 77
British-American, No. 5 Kangerga, through tubing and casing (½ hr.).. 300
Deep Rock Oil Co., No. 2 Stovall, through ½-in. tubing choke 78
Devonian Oil Co., No. 4 Alford, through ⅝-in. tubing choke 85
E. A. Dreebin, No. 1 Thrash, pinched.. 110
Gulf Prod. Co., No. 1 Elmore Cole, through open tubing 145
Gulf Prod. Co., No. 6 Ida Holt, through 1½-in. tubing choke 163
Gulf States Prod. Co., No. 1 Giles, pinched through tubing 125
Humble O. & R. Co., No. 8 W. A. Mulliken, through ⅝-in. tubing choke 122
Humble O. & R. Co., No. 4 W. L. Price, through ⅝-in. tubing choke 95
Humble O. & R. Co., No. 5 W. L. Price, through ⅝-in. tubing choke 74
Johnson et al, No. 2 C. W. Mullins, through 1-in. tubing choke 100
London Pet. Co., No. 1 J. L. Maxwell, through 2½-in. tubing choke 120
M. & G. Oil Co., No. 1 Teague, through 1-in. tubing choke 164
Mid-Kansas O. & G. Co., No. 4 Cora L. Graham, through open tubing 250
Mid-Kansas O. & G. Co., No. 5 E. E. More, through open tubing 90
R. M. V. Oil Co., No. 1 J. W. Flannigan, through open tubing (½ hr.) 85
Reteal Drlg. Co., No. 1 Cooper, through 2½-in. tubing choke (24 hrs.) 70
Risinger et al, No. 1 L. Barton, through ⅝-in. tubing choke 125
Sombar Oil Co., No. 2 A. P. Finney, through open tubing 95
The Texas Co., No. 6 Wilson, through ⅝-in. tubing choke 93
Ward Oil Co., No. 3 A. P. Finney, through open tubing 85
Ward Oil Co., No. 7 E. B. Thrash, through open tubing 113
A. L. Allen and Goodwin, No. 1 L. B. Morse, through open tubing (¼ hr.). 17
Burton Drlg. Co., No. 3 Geo. Thompson, pinched through tubing 100
Lewis Prod. Co., No. 2 Tom Bean, through ½-in. tubing choke 208
L. G. Priest et al, No. 1 Mayfield, pinched through tubing (24 hrs.) 100
Republic Prod. Co., No. 2 Scroggins, (½ hr.) 30
Ward Oil Co., No. 2 Beall, pinched (24 hrs.) 100
Blackwell O. & G. Co., No. 3 Samp Stone, through open tubing 165
Golding and Murchinson, No. 4 R. W. Fair, through ½-in. tubing choke .. 60
Golding and Murchinson, No. 2 L. J. Pinkston, through open tubing (½ hr.) 66
Gulf Prod. Co., No. 1 Hoxey Johnson, through 1⅛-in. tubing choke (½ hr.) 100
Humble O. & R. Co., No. 4 J. H. Arnold, through ⅝-in. tubing choke 59
Humble O. & R. Co., No. 3 John Bell, through ⅝-in. tubing choke 98
Humble O. & R. Co., No. 3 Lula Barton, through ⅝-in. tubing choke 75
Humble O. & R. Co., No. 6 Jones Fuller, through ⅝-in. tubing choke 66
Humble O. & R. Co., No. 9 Wooley, through ⅝-in. tubing choke 111
Humble O. & R. Co., No. 5 Mattie Wooster, through ⅝-in. tubing choke 78
H. L. Hunt, No. 6-C R. W. Fair, through open tubing 100
H. L. Hunt, No. 2 R. J. Vinson, through open tubing 95
Magnolia Pet. Co., No. 4 Dan Kelley, through open tubing 105
Mid-Kansas O. & G. Co., No. 7 E. E. Moores, through open tubing 110
Mid-Kansas O. & G. Co., No. 1 T. O. Warren, through open tubing 135
E. L. Smith Oil Co., No. 1 I. W. Wooley, by heads (5 hrs.) 45
Snetcher and Pittman, No. 3 F. J. Cox, through open tubing 85
Aph Tillman et al, No. 1 Daisy Bradford ..... abd
The Texas Co., No. 2 W. T. Chappell, through ⅝-in. tubing choke 98
Shell Pet. Corp., No. 6 W. P. Moore, through open tubing (½ hr.) 56
Magnolia Pet. Co., No. 3 H. P. Leverett, through 4-in. line on casing and ⅝-in. tubing choke (5 min.) 44
Arkansas Fuel Oil Co., No. 4 Beall, through 2½-in. tubing choke 150
Beard and Hammond, No. 2 Keeling, through open tubing (½ hr.) 82
East Shore Oil Co., No. 2 Fox, through open tubing 135
Humble O. & R. Co., No. 3 O. R. Holt, through ⅝-in. tubing choke 100
Humble O. & R. Co., No. 1 Moranda Joyner, through ⅝-in. tubing choke.. 94
Humble O. & R Co., No. 2 Cass Pilgreen, through ⅝-in. tubing choke... 78
London Oil Co., No. 1 Maxwell, through 1-in. tubing choke 122
Mid-Kansas O. & G. Co., No. 6 M. M. Cross, through open tubing 240
Mills-Bennett Prod. Co., No. 1 Pinkston, through open tubing 120
R. M. V. Oil Co., No. 2 L. J. Pinkston, through open tubing (⅛ hr.).. 60
Sun Oil Co., No. 3 H. Schuler, through open tubing 108
Sun Oil Co., No. 2-B Schuler, through open tubing 65
The Texas Co., No. 5 First Guaranty State Bank, through ⅝-in. tubing choke 125
A. L. Waller, No. 1 Alford, through 2½-in. tubing pinched (24 hrs.) 145
Nat. Wiseman, No. 1 Wilson, through open tubing 125
Woodley Pet. Co., No. 2 McMillan, through open tubing 110
Hamilton et al, No. 3 L. A. Gambrell, through 2½-in. tubing choke (½ hr.) 44
Henson Oil Co., No. 1 R. A. Motley, through open tubing (½ hr.) 65
J. L. Hinchliffe, No. 1 L. J. Pinkston, through open tubing 110
Humble O. & R. Co., No. 6 P. R. Guerin, through ⅝-in. tubing choke (½ hr.) 50
Humble O. & R. Co., No. 6 W. L. Price, through ⅝-in. tubing choke (½ hr.). 51
Humble O. & R. Co., No. 6 J. W. Turner, through open tubing 62
Humble O. & R. Co., No. 7 J. W. Turner, through open tubing (½ hr.) 49
Lion O. & R. Co., No. 4-B Brooks, through open tubing 50
London Pet. Co., No. 2 Thompson, through open tubing (1/6 hr.) 40
Mid-Kansas O. & G. Co., No. 7 M. M. Cross, through open tubing 250
Mid-Kansas O. & G. Co., No. 1 M. C. Dequerin, through open tubing 180
Mills-Bennett Prod. Co., No. 2 L. J. Pinkston, through open tubing 100
Stedham and Thrasher, No. 1 Lillie Jones, through open tubing (½ hr.).. 85
The Texas Co., No. 2 Cora Hannah, through open tubing 120
The Texas Co.'s No. 3 J. W. Turner, through ⅝-in. tubing choke 90

Completed 145
Abandoned 1
Initial production 14,890

TYLER COUNTY

Allied Pet. Co., No. 3 Wilson ..... abd

Completed 1
Abandoned 1

SMITH COUNTY

Earlewine Oil Co., No. 2-A Cooke, through open tubing 160
H. L. Hunt, tr., No. 2-B R. W. Fair, through open tubing 140
Magnolia Pet. Co., No. 12 J. R. Wright, through tubing and casing (5 min.) 60
Magnolia Pet. Co., No. 13 J. R. Wright, through tubing and casing (1/6 hr.). 160
Pugh and Hickman, No. 2 R. G. Wright, through tubing (¼ hr.) 45
Sinclair O. & G. Co., No. 4-C Jarvis, through tubing (½ hr.) 79
Sinclair O. & G. Co., No. 5-C Jarvis, through tubing (½ hr.) 48
Sinclair O. & G. Co., No. 7-A Mayfield, through tubing (⅝ hr.) 125
Humble O. & R. Co., No. 4 M. C. Thompson, through ⅝-in. tubing choke 106
Mid-Kansas O. & G. Co., No. 8 M. M. Cole, through open tubing 260
Ignatius P. O'Neal, No. 1 Mayfield, through open tubing (½ hr.) 55
Nelson Pruitt, No. 2 M. L. Thompson, through 11/16-in. tubing choke 100
Sun Oil Co., No. 1 T. M. Sloan, through open tubing 125
The Texas Co., No. 3 Blackwell, through tubing 110
W. M. Rowan et al, No. 1 Gibbons .... abd
Pugh and Hickman, No. 2 S. S. Cooke, through open tubing (¼ hr.) 45
C. B. Bunte, Inc., No. 5 I. J. Smith, through ⅝-in. tubing choke 60
J. E. Ducas, No. 1 Colored Methodist Church, through ⅝-in. tubing choke. 35
Magnolia Pet. Co., No. 5 Loosler, through open casing (¼ hr.) 42
Sessions et al, No. 1 Sabe Stoen ..... (*)
Pointer Oil Co., No. 2 T. O. Wright, through open tubing (½ hr.) 150

Completed 21
Abandoned 1
Initial production 1905

*Shut in.

UPSHUR COUNTY

Atlantic Oil & Prod. Co., No. 6 Moyers, through 1-in. tubing choke 155
Cal-Pet Corp., No. 1 D. Culpepper .... (*)
Cal-Pet Corp., No. 2 W. F. Glynn, through 1-in. tubing choke 55
Cal-Pet Corp., No. 1 W. H. Reed, through open tubing 120
Galvez Oil Co., No. 1 W. W. Holland, through open tubing 100
Gibson Oil Co., No. 2 Smith, through open tubing 95
Humble O. & R. Co., No. 9 Edwards, through ⅝-in. tubing choke 85
Humble O. & R. Co., No. 1 C. T. Shelton, through ¾-in. tubing choke 42
Humble O. & R. Co., No. 4 Smith, through ⅝-in. tubing choke 69
Magnolia Pet. Co., No. 6 R. A. Adkins, through 1-in. tubing choke 106
Magnolia Pet. Co., No. 1 S. Christian, through ⅝-in. tubing choke 100
Magnolia Pet. Co., No. 11 Free, through open tubing 100
Magnolia Pet. Co., No. 12 Free, through ⅝-in. tubing choke 126
Mudge Oil Co., No. 2 Richardson, through open tubing (½ hr.) 58
Peckham et al, No. 1 Free, through ⅝-in. tubing choke 135
W. H. Peckham, No. 1-B J. B. Webb, through open tubing 140
Showers and Moncrief, No. 2 T. M. Collins, through open tubing (½ hr.) .. 75
Harry W. Slack, No. 1 J. M. Burrough, through open tubing 85
Glasscock et al, No. 1 Burrough, through 1-in. tubing choke 125
Humble O. & R. Co., No. 3 Phillips, through ⅝-in. tubing choke 35
Clark and Cowden, No. 1-B J. W. Free, through 1-in. tubing choke (¼ hr.). 37
Danciger O. & R. Co., No. 1 J. N. Taylor, through open tubing (1/6 hr.) .. 25
Humble O. & R. Co., No. 1 J. T. Jones, through ⅝-in. tubing choke 60
Humble O. & R. Co., No. 1 L. A. Shelton, through ⅝-in. tubing choke .. 73
Shell Pet. Corp., No. 7 C. C. Landers, through open tubing (½ hr.) 51
Shell Pet. Corp., No. 2 W. Landers, through choked tubing (½ hr.) 10
Atlantic Oil & Prod. Co., No. 3 Moyers, through 1-in. tubing choke 160
C. H. Brown et al, No. 1 W. M. Landers, through 1-in. tubing choke 120
Cal-Pet. Corp., No. 3 Dearing, through ⅝-in. tubing choke 35
Humble O. & R. Co., No. 1 L. C. Mackey abd
Magnolia Pet. Co., No. 3 Blackwell, through 1-in. tubing choke 160
O. W. Prod. Co., No. 1-B O. F. Smith, through 1-in. tubing choke 104
Sabinos Oil Co., No. 1-B T. W. Collins, through various chokes 125
Sabinos Oil Co., No. 1-B Falvey, through various chokes 125
Shell Pet. Corp., No. 6 Landers, through open tubing (½ hr.) 72
Rancho Oil Co., No. 3 H. W. Moyers, through open tubing (¼ hr.) 30
Trico Oil Co., No. 1 East M. School, through open tubing 125

Completed 37
Abandoned 1
Initial production 3118

*Would not flow.

VAN ZANDT COUNTY

The Texas Co., No. 3 R. V. White 200
Pure Oil Co., No. 3 H. C. Gilbert, per day through 11/16-in. tubing choke . 500
Pure Oil Co., No. 2 F. Blackstock, through 11/16-in. tubing choke 360
Pure Oil Co., No. 3 A. W. Ellison 220
Pure Oil Co., No. 3 A. F. Magers, gas, some oil ..... gas
Pure Oil Co., No. 3 Ella York, through 11/16-in. tubing choke 300
Pure Oil Co., No. 6 Clark, through 11/16-in. tubing choke 490
Pure Oil Co., No. 8 Tunnell, through 11/16-in. tubing choke 545
Sun Oil Co., No. 5 Thompson, through 11/16-in. tubing choke 360
Pure Oil Co., No. 3 B. B. Crim, through 11/16-in. tubing choke (1 hr.) 64

Completed 10
Initial production 3039

NORTH CENTRAL TEXAS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Archer	17	951	9	0
Brown	4	3	0	1
Clay	1	45	0	0
Coleman	1	0	1	0
Cooke	1	0	1	0
Eastland	1	20	0	0
Palo Pinto	4	0	1	3
Parker	0	0	0	0
Shackelford	6	22	4	0
Wichita	4	60	2	0
Wilbarger	3	0	3	0
Young	23	360	13	0
Total December	65	1,461	34	4
Total November	48	2,145	26	4
Difference	17	684	8	0

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drg.	Ttl.
Archer	12	7	11	30
Brown	2	3	3	8
Callahan	1	0	1	2
Coleman	1	5	1	7
Cooke	1	0	1	2
Clay	0	0	0	0
Eastland	4	1	1	6
Erath	0	2	0	2
Jack	1	1	4	6
Palo Pinto	5	6	5	16
Shackelford	3	1	2	6
Stephens	0	2	3	5
Throckmorton	2	1	1	4
Wichita	1	2	7	10
Wilbarger	1	2	2	5
Young	8	5	20	33
Miscellaneous	3	7	7	17
Total December	45	45	69	159
Total November	49	40	73	162
Difference	4	5	4	3

WELLS COMPLETED

ARCHER COUNTY

F. C. Green, Bridwell Oil Co. 4 35
McCluer, Burns & Long 8 ..... dry
J. B. Frerich, Flake et al 2 ..... dry
F. C. Green, Schultz & Weaver 6 100
W. H. Terrell, Texas Plains Oil Co. 1 .. dry
Oil Investment Co., Bridwell Oil Co. 20 157
L. F. Wilson-R, L. T. Burns 3 10
L. F. Wilson 5-A, Deep Oil Dev. Co. 2. 420
W. H. Taylor, Jones & Holcombe 5 .... dry
Young & Langford, Waggoner & Gose 1 dry
J. T. Longley, Beard Hammond Deep Oil Co. 1 ..... dry
F. C. Green, Bridwell Oil Co. 5 50
Falls County School Land-B. F. P. Cullum 2 104
J. T. Richardson, Lowe, Delaney & Carter 1 ..... dry
J. R. Coody, Geo. L. Pace 1 ..... dry
Falls County School Land (Humble), Perkins & Cullum 3 75
J. F. Kovar, W. C. Young 1 ..... dry

Wells completed 17
Production 951
Dry 9

BROWN COUNTY

Jesse Copeland, F. A. Lane 1 ..... gas
W. H. Pierce, Charter Oil Co. 1 ..... dry
Cross heirs-A, American Maracaibo Co. 1 ..... dry
Stephen Parker, C. E. Bonwell et al 1. dry

Wells completed 4
Dry 3
Gas 1
Gas production 7,000,000

CLAY COUNTY

G. W. Byers & Co., Ikard & Gobel 17-A 45

COLEMAN COUNTY

J. W. Waggoner, W. L. Jackson et al 1 dry

COOKE COUNTY

Baker Bros., Bo. Minnick 1 ..... dry

EASTLAND COUNTY

J. B. Harbin, L. Teatsorth 1 20

PALO PINTO COUNTY

Zuseman, Pace & Ward 1 ..... dry
C. E. Benninger, F. L. Walker et al 1.. gas
A. C. Anderson, Goodwin & White 1 .... gas
J. L. Ringo, W. K. Gordon et al 1 .... gas

Wells completed 4
Dry 1
Gas 3
Gas production 37,834,000

SHACKELFORD COUNTY

Geo. Callahan, Geo. Callahan 1 ..... dry
S. Webb, Dickey Bros. 6 10
V. Palm, J. B. Douglas 1 ..... dry
A. A. Clark, D. C. Pratt 7 12
M. Crow, G. A. White et al 1 ..... dry
Mrs. B. A. King, Jake Young et al 1.. dry

Wells completed 6
Production 22
Dry 4

WICHITA COUNTY

Geo. L. Dobie, R. L. Arrington 2 45
Munger, Consolidated & Primrose 1 .... dry
Allen-Foster, W. R. Fullerton et al 8... 15
A. A. Honaker, Geo. W. Walton 1 .... dry

Wells completed 4
Production 60
Dry 2

WILBARGER COUNTY

W. H. and A. P. Hawley, W. W. Bennett 1 ..... dry
Waggoner-H, Golding & Cochran 7 .... dry
W. T. Waggoner-C, Waggoner Ref. Co. 5 ..... dry

Wells completed 3
Dry 3

YOUNG COUNTY

Larimore, King Royalty Co. 31 30
Larimore, King Royalty Co. 32 115
S. R. Jeffery-B, Geo. Mollenkoph 1 .... dry
S. R. Jeffery-C, Petroleum Producers Co. 1 ..... dry
W. T. Finch et al, Producers Supply & Tool Co. 8 15
A. M. Graham, Dwight M. Ross 1 ..... dry
Belknap Coal Co., Swink & Smith 6.... 60
Belknap Coal Co., Swink & Smith 7 65
J. T. Lowe, Upshaw & Dennis 1 ..... dry
J. W. Davis, Wooten & Reed 1 ..... dry
L. A. Snider, Cable Oil Co. 18 5
L. A. Snider, Cable Oil Co. 20 ..... dry
L. A. Snider, Cable Oil Co. 19 ..... dry
L. A. Snider, Cable Oil Co. 21 5
L. A. Snider, Cable Oil Co. 22 5
E. P. Tatum, E. C. Reed 4 36
Ellis, Seitz et al 1 ..... dry
Carpenter, Spudder Drilling Co. 1 ..... dry
L. C. Brooks, W. R. Stafford 1 ..... dry
S. R. Jeffery-D, United Producers Co. 1 dry
J. F. Larimore, United Producers Co. 2. 24
J. T. Lowe, United Producers Co. et al 1 ..... dry
Marshall Morgan et al, Clarco Oil Co. 2 dry

Wells completed 23
Production 360
Dry 13

TEXAS PANHANDLE

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	2	120	0	1
Gray	5	1,519	0	0
Hutchinson	1	175	0	0
Moore	2	0	0	2
Total December	10	1,814	0	3
Total November	8	165	0	7
Difference	2	1,649	0	4

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drg.	Ttl.
Carson	3	0	3	6
Gray	1	6	13	20
Hutchinson	3	2	2	7
Moore	4	0	5	9
Wheeler	0	1	1	2
Miscellaneous	0	5	3	8
Total December	11	14	27	52
Total November	14	18	23	55
Difference	3	4	4	3

WELLS COMPLETED

CARSON COUNTY

L. T. Urbanczyk-T, Texoma Nat. Gas Co. 1 ..... gas
B. F. Block, Ryan Con. Oil Co. 7 120

Wells completed 2
Production 120
Gas 1
Gas production 20,000,000

GRAY COUNTY

J. C. Vallmert, Anderson et al 2 280
W. C. Heaston, Magnolia Pet. Co. 1 240
R. B. Thompson et al, Anderson & Bean 2 200
R. E. Smith, Kewanee Oil & Gas Co. 4. 369
W. C. Heaston, Skelly Oil Co. 2 430

Wells completed 5
Production 1519

HUTCHINSON COUNTY

Pitcher-A, Smith & McDannald 3 175

MOORE COUNTY

R. S. Coon-M, Texoma Nat. Gas Co. 1.. gas
Coon-Sneed-M, Texoma Nat. Gas Co. 1. gas

Gas production 17,800,000

SOUTHWEST TEXAS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry Gas	Rigs	Drg.	Ttl.
Bruner	0	0	0 0	1	1	
Dobrowolski	1	10	0 0	1	0	1
Cooksey	0	0	0 0	0	1	1
Camp	1	450	0 0	1	0	1
Chittim	0	0	0 0	0	1	1
Cartwright	0	0	0 0	0	2	2
Darst Creek	3	1,903	0 0	0	0	0
McFadden	0	0	0 0	0	1	1
Mirando	25	3,086	6 2	6	15	21
Pettus	0	0	0 0	1	4	5
Saxet	1	0	0 1	1	1	2
Slick	0	0	0 0	1	0	1
Welder	1	0	1 0	0	0	0
White Point	0	0	0 0	0	1	1
Miscellaneous	26	705	22 2	10	64	74
Total Dec...	58	6,154	29 5	21	91	112
Total Nov...	57	10,225	36 7	13	92	105
Difference..	1	4,071	7 2	8	1	7

WELLS COMPLETED

DOBROWOLSKI POOL—BEXAR COUNTY

J. Ramzinski, Witherspoon Oil Co. 2... 10

SCHOOLFIELD-O'BYRNE POOL—DUVAL COUNTY

J. O. Wilson, Magnolia Pet. Co. 6..... gas
Bishop Cattle Co., Thomas & Tarver 4. 500
Bishop Cattle Co., Duval Oil Corp. 6.. 500

COLE POOL—DUVAL COUNTY

Benavides, Cole Pet. Co. 71..... 25
Benavides, Cole Pet. Co. 72..... abd

S.R.C.-VACUUM POOL—DUVAL COUNTY

Duval Land Co., S.R.C. and Vacuum 6.. 100

DARST CREEK—GUADALUPE COUNTY

Henry Willie, The Texas Co. 7..... 306
R. A. Parrish, The Texas Co. 4..... 697
L. Anderson, The Texas Co. 7..... 900

CAMP POOL—GUADALUPE COUNTY

Sue Denman, Humble O. & R. Co. 2-C.. 450

SAXET POOL—NUECES COUNTY

McCampbell, Saxet Oil Co. 1..... gas

LOS OLMOS POOL—STARR COUNTY

Kelsey-Bass, L. L. Smith 1..... abd
J. F. Ivey, San Marcos Oil Co. 2..... gas
Kelsey-Bass, Los Olmos O. & G. Co. 6.. 2
Kelsey-Bass, Los Olmos O. & G. Co. 7.. abd
Kelsey-Bass, Los Olmos O. & G. Co. 8.. 30

WELDER POOL—SAN PATRICIO COUNTY

Welder, Atlantic Oil Prod. Co. 1..... abd

CAROLINA-TEXAS POOL—WEBB COUNTY

Webster, Usher Carson 5..... 125

COLE POOL—WEBB COUNTY

Bruni, O. W. Killam 22..... abd

ESCOBAS POOL—ZAPATA COUNTY

Gutierrez, Allied O. & G. Co. 17..... 840
Gutierrez, Allied O. & G. Co. 17-A.... 500
Jose Bustamente, Fairway Prod. Co. 2.. 250
Bustamente, Winch & Billings 3..... 350
Bustamente, Winch & Billings 4..... 200
A. Bustamente, O. W. Killam 10..... 100
Bustamente, O. W. Killam 11..... 200
Trevino, Trevino Oil Corp. 13-B..... 125
Cuellar, Shankle & Murray 2..... abd

CHARCO-REDONDO POOL—ZAPATA COUNTY

Martinez, Bob & Ritchey 25..... 2
Martinez, Bob & Ritchey 26..... 2

KILLAM-CUELLAR POOL—ZAPATA COUNTY

Cuellar, O. W. Killam, 46-B..... 75

Wells completed 32
Production 5449
Gas production 20,185,000
Abandoned 7

MISCELLANEOUS COUNTIES—WILDCATS

Bee County—
Portis, Houston Oil Co. 2..... 355
Ray, C.R.M. Drlg. Co. 1..... abd

Blanco County—
Schenling, McCleary & Hooker 1..... abd
Hohenberger, C. Rosenfield 1..... abd

Caldwell County—
Keith McGee, Lloyd North (Ralph R. Lewis) 1 ..... abd

Comal County—
T. J. Byler, Lanier et al 1..... abd

DeWitt County—
E. T. Clark, Gibson & Strum 1..... abd

Guadalupe County—
Jim Sherrill, Harry J. Bruner 2..... abd
Kruger, Pray & Campbell 1..... abd
A. S. Ogletree, Schleyer, Atherton and Armstrong 1 ..... abd

Jim Wells County—
N. A. Hoffman, Stanolind O. & G. 1.. abd

Jim Hogg County—
Lopez, O. W. Killam 2..... gas

Karnes County—
I. L. Russell, V. F. Neuhaus 1..... abd

Kerr County—
J. D. Witt, Herbert Oil Co. 1..... abd

Kendall County—
W. Haag, Borgett et al 1..... abd
Emil Ellebracht, Fred S. Dibble 1..... abd
Ottmar Behr, Dixon Oil Co. 1..... abd
W. B. Garvin, Hardy Sitton 1..... abd

McMullen County—
Jacob, Jacob, Buzzini & Pickett 1..... gas

Medina County—
W. B. Odom, J. H. Hickey 1..... abd
Medina Valley Irrigation, Star Pet. 1.. abd

Milam County—
E. Lawhon, Dil-Tex Oil Corp. 1..... abd

Travis County—
T. Cook, Waldron et al 1..... abd

Webb County—
Benavides, Cole Pet. Co. 4..... abd

Zapata County—
Bustamente, F. H. Etheridge 2..... abd
Bustamente, Winch & Billings 2..... 350

Wells completed 26
Production 705
Gas production 14,000,000
Abandoned 22

WEST TEXAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Crane	1	0	1	0
Howard	2	2,304	0	0
Irion	1	0	1	0
Loving	1	0	1	0
Pecos	1	172	0	0
Upton	2	362	1	0
Ward	6	230	2	0
Total December	14	3,068	6	0
Total November	14	8,802	1	0
Difference	0	5,734	5	0

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drg.	Ttl
Crane	0	0	0	0
Ector	0	1	1	2
Fisher	1	1	4	6
Howard	0	0	5	5
Irion	0	3	1	4
Jones	2	0	0	2
Loving	0	7	2	9
Pecos	3	3	1	7
Reagan	0	1	3	4
Upton	1	0	2	3
Ward	1	9	10	20
Winkler	1	0	1	2
Miscellaneous	0	19	7	26
Total December	9	44	37	90
Total November	12	37	41	90
Difference	3	7	4	0

WELLS COMPLETED

CRANE COUNTY

J. B. Tubb, Penn Oil Co. et al 1 ..... dry

HOWARD COUNTY

W. R. Settles-C, American Maracaibo Co. 1 840
S. T. Eason, Group No. 1 and Continental 1 1464

Wells completed 2
Production 2304

IRION COUNTY

F. Tankersley-A, Denny & Andrews 1 . dry

LOVING COUNTY

G. B. Russell et al, Carl Cromwell and Atlantic O. P. Co. 2 ..... dry

PECOS COUNTY

H. Monroe, Corvette Oil Corp. 4 172

UPTON COUNTY

J. H. Shirk-A, R. H. Gill et al 1 ..... dry
J. H. Shirk, T. P. Coal & Oil Co. and Humble O. & R. Co. 2 362

WARD COUNTY

Lee Monroe, Fred Postelle et al 1 40
A. Emory, Hankison et al 1 ..... dry
T. H. Barrow, Atlantic Oil Prod. Co. 1. 148
J. H. Boogher et al, J. H. Boogher et al 1 ..... dry
J. S. Reynolds, Paul Ryan et al 1 25
E. H. Brown, Stanolind O. & G. Co. 1 . 17

Wells completed 6
Production 230
Dry 2

GULF COAST FIELDS

Summary of Field Operations

Texas

Field—	Comp.	Prod.	Abd. Gas	Rigs	Drg.	Ttl.
Barbers Hill	5	3,595	0 0	15	15	
Batson	1	6	0 0	0	0	0
Big Creek	0	0	0 0	0	1	1
Blue Ridge	1	740	0 0	0	0	0
Damon Mound	1	1,000	0 0	0	2	2
Fannett	0	0	0 0	0	2	2
High Island	1	0	1 0	0	2	2
Hull	1	50	0 0	1	3	4
Humble	1	0	1 0	0	4	4
Lost Lake	0	0	0 0	1	1	2
Markham	0	0	0 0	0	1	1
Moss Bluff	1	0	1 0	0	2	2
Nash	0	0	0 0	0	1	1
Orchard	0	0	0 0	0	1	1
Pierce Junct.	2	715	1 0	0	5	5
Port Neches	0	0	0 0	0	1	1
Refugio	1	80	0 0	0	3	3
Saratoga	1	10	0 0	0	1	1
Thompson	1	2,640	0 0	0	4	4
Miscellaneous	7	2,000	4 2	1	18	19
Total Dec...	24	10,836	8 2	3	67	70
Total Nov...	36	21,990	13 0	5	81	86
Difference..	12	11,154	5 2	2	14	16

Louisiana

Bayou Blue	1	0	1	0	0	0	0
Edgerly	0	0	0	0	0	1	1
Hackberry	4	8,200	0	0	1	3	4
Jennings	0	0	0	0	0	1	1
Lockport	1	640	0	0	0	2	2
Sorrento	1	0	1	0	0	0	0
Sulphur	1	1,500	0	0	0	1	1
Sweet Lake	0	0	0	0	0	1	1
Vinton	0	0	0	0	0	2	2
Miscellaneous	2	0	2	0	2	8	10
Total Dec...	10	10,340	4	0	3	19	22
Total Nov...	9	3,180	4	0	0	23	23
Difference..	1	7,160	0	0	3	4	1

Total Gulf Coast 34 21,176 12 2 6 86 92
Total Nov... 45 19,483 9 1 12 83 95
Difference.. 11 1,693 3 1 6 3 3

WELLS COMPLETED

BARBERS HILL—CHAMBERS COUNTY

Gulf ,Barber fee, Mills Bennett Prod. 1 715
Wilburn, Gulf Prod. Co. 6..... 960
Higgins, McAlbert Oil Co. 2-A..... 60
Barbers, Nat Hunter Prod. Co. 3-B....1800
Smith, Sun Oil Co. 3..... 60

Wells completed 5
Production 3595

BATSON—HARDIN COUNTY

Heywood, Paraffin Oil Co. 36..... 6

BLUE RIDGE—FORT BEND COUNTY

Blakely, Coronado Oil Co. 2..... 740

DAMON MOUND—BRAZORIA COUNTY

Wisdom, Intercoastal Oil Co. 8.....1000

HIGH ISLAND—GALVESTON COUNTY

Cade, Yount Lee Oil Co. 23..... abd

HULL—LIBERTY COUNTY

Carr, Sun Oil Co. 10..... 50

HUMBLE—HARRIS COUNTY

Bender, Sun Oil Co. 25..... abd

MOSS BLUFF—LIBERTY COUNTY

Harrison, Texas Gulf Sulphur Co. 5... abd

PIERCE JUNCTION—HARRIS COUNTY

Barnes, Southern Pet. Co. 1..... 715
Minchen, Warner & Quinlan 1..... abd

Wells completed 2
Production 715
Abandoned 1

REFUGIO—REFUGIO COUNTY

O'Brien, Mission Drlg. Co. 3..... 80

SARATOGA—HARDIN COUNTY

Cotton, Rio Bravo Oil Co. 123-A..... 10

THOMPSON—FORT BEND COUNTY

Lockwood, Cullen & West 2.....2640

MISCELLANEOUS TEXAS

Brazoria County—
Lockridge—Chapman, W. D. Southerland 1 ..... abd

Jackson County—
Edna—Drushell, Chicago Gulf Co. 10.. gas

Jefferson County—
Cheek—Nelson, Humble O. & R. Co. 1. abd

Liberty County—
James Fenner Sur., Palmer, L. B. House 1 ..... abd

Montgomery County—
S. J. McFarland Sur., Renn, Humble O. & R. Co. 1 ..... abd
Theo. Slade Sur., So. Texas Dev. Co., Strake et al 1 ..... gas

Refugio County—
John Keating Sur., O'Connor, Humble O. & R. Co. 1 2000

Wells completed 7
Production 2000
Abandoned 4
Gas 2

LOUISIANA

WELLS COMPLETED

BAYOU BLUE—IBERVILLE PARISH

Schwing, Standard Oil Co. 6..... abd

HACKBERRY—CAMERON PARISH

Watkins, Calcasieu Oil Co. 27.....2000
Watkins, Calcasieu Oil Co. 29.....3000
Erwin, J. G. Sutton 3.....1300
State, Yount Lee Oil Co. 47.....1900

Wells completed 4
Production 8200

LOCKPORT—CALCASIEU PARISH

H. J. Moss, Union Sulphur Co. 1..... 640

SORRENTO—ASCENSION PARISH

United Land Co., Gulf Ref. Co. 20 ... abd

SULPHUR—CALCASIEU PARISH

Fee, Union Sulphur Co. 767.....1500

MISCELLANEOUS LOUISIANA

Terrebonne Parish—
Bay Junop—L. L. & E., The Texas Co. 2 abd

Vermillion Parish—
Gueydan—Southwest La. Land Co., Pure Oil Co. 2 ..... abd

Wells completed 2
Abandoned 2

EAST TEXAS (BORDER COUNTIES)

Summary of Field Operations

	Comp.	Prod.	Dry Gas*	Rigs	Drg.	Ttl.
Bowie	1	0	1 0	0	3	3
Camp	0	0	0 0	0	1	1
Cass	0	0	0 0	0	8	8
Harrison	0	0	0 0	1	2	3
Marion	0	0	0 0	0	1	1
Panola	1	0	0 1	3	5	8
Red River	0	0	0 0	0	2	2
Shelby	0	0	0 0	0	11	11
Total Dec...	2	0	1 1	4	33	37
Total Nov..	4	0	4 0	4	34	38
Difference..	2	0	3 1	0	1	1

*Gas production: Panola County, 10,000,000 feet.

WELLS COMPLETED

BOWIE COUNTY

Y. S. McKinney Sur., Merritt, Hindeman & Bell 1 ..... dry

PANOLA COUNTY

B. C. Jordan Sur., Floyd, Natural Gas Prod. Co. 8 ..... gas

Gas production 10,000,000

NORTH LOUISIANA

Summary of Field Operations

	Comp.	Prod.	Dry Gas*	Rigs	Drg.	Ttl.
Avoyelles	0	0	0 0	1	0	1
Bienville	1	0	1 0	0	0	0
Bossier	0	0	0 0	1	3	4
Caddo	2	0	1 1	1	2	3
Caldwell	0	0	0 0	0	2	2
Catahoula	0	0	0 0	0	1	1
Claiborne	0	0	0 0	0	1	1
DeSoto	0	0	0 0	0	4	4
Morehouse	0	0	0 0	1	1	2
Natchitoches	0	0	0 0	0	5	5
Ouachita	0	0	0 0	1	1	2
Red River	0	0	0 0	0	2	2
Richland	4	0	0 4	2	2	4
Sabine	6	120	4 0	8	27	35
Tensas	1	0	1 0	0	1	1
Union	2	0	1 1	0	0	0
Total Dec...	16	120	8 6	15	52	67
Total Nov..	13	250	9 3	12	58	70
Difference..	3	130	1 3	3	6	3

*Gas production: Caddo Parish, 54,618,590 feet; Richland Parish, 119,267,000 feet; Union Parish, 10,397,000 feet; total, 184,282,590 feet.

WELLS COMPLETED

BIENVILLE PARISH

28-18- 6 Mason, Arcadia Drilling Co. 1. dry

CADDO PARISH

18-19-14 Oden, D. C. R. Oil Co. 1, Account 5 ..... dry
33-23-16 Bussa, United Gas Public Service Co. 1 ..... gas

Gas production 54,618,590

RICHLAND PARISH

4-16-6e Alexander, Pelican Nat. Gas Co. 1 ..... gas
19-17-6e Rosengraut & Ducomb, Southern Carbon Co. 6 ..... gas
18-17-6e Rosengraut & Ducomb, Southern Carbon Co. 8 ..... gas
32-17-6e Rhymes England, United Gas Public Service Co. 14 ..... gas

Gas production 119,267,000

SABINE PARISH

1- 7-13 Hale, Coates Pet. Co. 1 100
35- 8-11 La. Long Leaf Lbr. Co., Exchange Pet. Co. 1-B ..... dry
35- 8-12 Holliday, W. F. Lacey 1 ..... dry
1- 7-11 Byrd, Lyons & Neely 3 ..... dry
2- 7-12 Bowman-Hicks, Ohio Oil Co. 12 20
4- 7-11 La. Long Leaf Lbr. Co., Pelican Natural Gas Co. 12 .... dry

TENSAS PARISH

1-13-11e Martin Jacob, L. A. Duvall et al 1 ..... dry

UNION PARISH

7-20-4e Harrell, Nemours Corp. 1 .... gas
32-20-3e Howard, Stovall Drilling Co. 2 dry

Gas production 10,397,000

ARKANSAS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry Gas	Rigs	Drg.	Ttl.
Clay	0	0	0 0	0	1	1
Cleburne	0	0	0 0	0	1	1
Cleveland	0	0	0 0	1	0	1
Columbia	0	0	0 0	0	1	1
Crawford	1	0	1 0	0	0	0
Dallas	1	0	1 0	1	1	2
Drew	0	0	0 0	0	1	1
Hot Springs	0	0	0 0	0	1	1
Lawrence	0	0	0 0	1	0	1
Lincoln	0	0	0 0	0	1	1
Little River	0	0	0 0	1	1	2
Logan	0	0	0 0	0	1	1
Miller	0	0	0 0	0	1	1
Ouachita	1	50	0 0	0	2	2
Pike	0	0	0 0	0	2	2
Prairie	0	0	0 0	1	0	1
Scott	0	0	0 0	0	2	2
Sevier	0	0	0 0	0	1	1
Union	0	0	0 0	4	7	11
Van Buren	0	0	0 0	0	1	1
Washington	0	0	0 0	0	1	1
Yell	0	0	0 0	0	1	1
Total Dec...	3	50	2 0	9	27	36
Total Nov..	4	50	3 0	9	27	36
Difference..	1	0	1 0	0	0	0

WELLS COMPLETED

CRAWFORD COUNTY

29-10-29 Hammond, Ozark Nat. Gas Co. 1 ..... dry

DALLAS COUNTY

20-10-13 Hillman, E. C. Brewer 1 ..... dry

OUACHITA COUNTY

23-16-15 Arnold & Doyle, M. S. M. Oil Co. 4 50

MISSISSIPPI

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas*	Rigs	Drg.	Ttl.
Clarke	0	0	0	0	0	1	1
Hinds	3	0	0	3	3	6	9
Jasper	0	0	0	0	0	1	1
Lowndes	0	0	0	0	1	0	1
Monroe	0	0	0	0	0	2	2
Newton	0	0	0	0	0	1	1
Noxubee	0	0	0	0	0	1	1
Rankin	2	0	0	2	4	7	11
Scott	0	0	0	0	1	0	1
Warren	1	0	1	0	0	1	1
Total Dec.	6	0	1	5	9	20	29
Total Nov.	9	0	4	5	11	18	29
Difference	3	0	0	3	2	2	0

*Gas production: Hinds County, 65,345,000 feet; Rankin County, 88,400,000 feet; total, 153,745,000 feet.

WELLS COMPLETED

HINDS COUNTY

33-6n-1e Permanent Invest. Co., James Alexander, trustee, 1 ..... gas
34-6n-1e Fee, Howie & Howie 1..... gas
34-6n-1e Sours et al, Ferguson-Fuller et al 1 ..... gas

Gas production 65,345,000

RANKIN COUNTY

12-5n-1e Wright, Muse & Muse 1 ..... gas
12-5n-1e Seany, Muse & Muse 1 ..... gas

Gas production 88,400,000

WARREN COUNTY

33-15n-3e Tchula Co-operative Store, United Gas Pub. Serv. Co. 1 dry

MISSOURI

WELLS COMPLETED

ST. LOUIS COUNTY

Central—Wm. Mild, Webster Oil & Gas Co. 1 ..... dry

ROCKY MOUNTAIN AREA

NEW MEXICO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
De Baca	0	0	0	0	0	2	2
Eddy	1	0	0	1	1	6	7
Lea	1	3,499	0	0	2	5	7
McKinley	0	0	0	0	0	7	7
Rio Arriba	0	0	0	0	0	3	3
San Juan	2	25	1	0	0	7	7
San Miguel	0	0	0	0	0	5	5
Torrance	0	0	0	0	0	2	2
Miscellaneous	0	0	0	0	1	13	14
Total Dec.	4	3,524	1	1	4	50	54
Total Nov.	6	2,757	2	0	6	52	58
Difference	2	767	2	1	2	2	4

WELLS COMPLETED

34-30-11 R. C. Oswell 2..... 25
24-31-16 Utes, Ortega et al 3..... abd
32-18-38 State, Continental Oil Co. 5-A..3499
29-17-29 Green, Western Drlg. Co. 1..... gas

Wells completed 4
Production 3524
Gas 1
Gas production 4,000,000
Dry and abandoned 1

WYOMING

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Horn	0	0	0	0	0	2	2
Carbon	0	0	0	0	1	8	9
Converse	0	0	0	0	0	3	3
Crook	0	0	0	0	0	1	1
Fremont	1	0	1	0	1	2	3
Hot Springs	0	0	0	0	0	2	2
Johnson	0	0	0	0	0	1	1
Lincoln	0	0	0	0	0	2	2
Natrona	1	100	0	0	4	6	10
Niobrara	0	0	0	0	0	2	2
Park	0	0	0	0	3	6	9
Sheridan	0	0	0	0	0	1	1
Sweetwater	0	0	0	0	2	5	7
Sublet	0	0	0	0	0	7	7
Uinta	0	0	0	0	0	6	6
Washakie	0	0	0	0	0	2	2
Weston	1	600	0	0	0	11	11
Total Dec.	3	700	1	0	11	67	78
Total Nov.	6	670	1	2	7	72	79
Difference	3	30	0	2	4	5	1

WELLS COMPLETED

15-46-64 Federal Oil Co. 1..... 600
23-35-79 Midway, Midwest Ref. Co. 11.. 100
28-34-90 Ward O. & G. Co. 1..... abd

Wells completed 3
Production 700
Dry and abandoned 1

COLORADO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Arapahoe	0	0	0	0	0	2	2
Boulder	0	0	0	0	0	4	4
Elbert	0	0	0	0	0	3	3
Fremont	0	0	0	0	0	5	5
La Plata	0	0	0	0	1	3	4
Larimer	0	0	0	0	1	10	11
Las Animas	0	0	0	0	1	3	4
Moffat	0	0	0	0	3	2	5
Morgan	0	0	0	0	1	4	5
Rio Blanco	0	0	0	0	0	4	4
Routt	0	0	0	0	1	2	3
Weld	0	0	0	0	5	7	12
Miscellaneous	0	0	0	0	0	23	23
Total Dec.	0	0	0	0	13	72	85
Total Nov.	3	0	3	0	14	72	86
Difference	3	0	3	0	1	0	1

MONTANA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Carbon	0	0	0	0	3	7	10
Cascade	0	0	0	0	0	3	3
Fergus	0	0	0	0	1	2	3
Glacier	0	0	0	0	2	5	7
Hill	0	0	0	0	1	1	2
Liberty	0	0	0	0	1	5	6
Pondera	0	0	0	0	0	2	2
Teton	0	0	0	0	1	4	5
Toole	3	200	2	0	5	11	16
Miscellaneous	0	0	0	0	2	16	18
Total Dec.	3	200	2	0	16	56	72
Total Nov.	33	0	27	6	19	52	71
Difference	30	200	25	6	3	4	1

WELLS COMPLETED

2-27-4w Farbo, Askalta Oil Co., Ltd. 2 200
36-35-2w Texas & Pacific 50..... abd
30-32-1w Newman, Latan-Idaho Pool 2 dry

Wells completed 3
Production 200
Dry and abandoned 2

UTAH

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total Dec.	0	0	0	0	1	19	20
Total Nov.	0	0	0	0	1	19	20
Difference	0	0	0	0	0	0	0

KENTUCKY FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	0	0	0	0	0	1	1
Ohio	14	280	2	1	0	4	4
Daviess	12	255	6	0	0	8	8
Hancock	5	145	1	1	0	10	10
McLean	8	680	1	0	6	9	15
Hart	0	0	0	0	0	10	10
Greene	0	0	0	0	0	1	1
Muhlenberg	0	0	0	0	0	1	1
Henderson	3	95	1	0	0	3	3
Webster	1	0	0	1	0	5	5
Edmonson	0	0	0	0	0	1	1
Todd	0	0	0	0	0	1	1
Nelson	0	0	0	0	0	1	1
Taylor	0	0	0	0	0	1	1
Hopkins	3	0	0	3	0	3	3
Cumberland	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Christian	1	0	0	1	0	2	2
Bath	0	0	0	0	0	1	1
Breckenridge	1	5	0	0	0	1	1
Grayson	1	0	0	1	0	0	0
Total Dec.	49	1,460	11	8	7	65	72
Total Nov.	33	1,039	5	9	10	77	87
Difference	16	421	6	1	3	12	15

WELLS COMPLETED

OHIO COUNTY

Hartford—Lucille Taylor, James E. Ellis & Co. 1 50
Mrs. Laura Mercer, S. A. Cobb & Co. 1 dry
David Brooks, Cumberland Pet. 4..... 40
A. E. McCarty, Cumberland Pet. 2 .. dry
Frank Hanna, Doug. Boiling 1 40
Westerfield, Chester Oil 1 20
Mrs. D. McCarty, Chester Oil 1 25
Sam McCarty, Chester Oil 1 5
Bellamy, Brenner & Adams 5 10
Bellamy, Brenner & Adams 6 5
I. T. Westerfield, Harry L. Ogle & Co. 1 50
Frank Hanna, Porter, Burgess & Co. 1 10
C. A. Kelley, Penn-Indiana Oil 22 ... 25
Fiem Douthitt, Leeper Oil 1 ..... gas

Wells completed 14
Production 280
Dry 2
Gas 1

DAVIESS COUNTY

Owensboro—William Tanner, S. H. Russell & Co. 1 25
Albert Jackson, Brenner & Adams 3. 10
Albert Jackson, Brenner & Adams 4. 19
W. F. Ware, French & Hupp 1 ..... dry
Myrtle Howard, James C. Ellis 4 ... dry
H. C. Cossler, Hupp & Root 4 ..... dry
Mary Taylor, Johnson Oil & Ref. 1.. dry
W. T. Huebner, Evans & Garrison 2. dry
Wm. Hibnek, Evans & Garrison 1 ... dry
J. C. and M. Alsip, Mecca Oil 3 80
Charles Bell, Cox & Co. 2 80
Widow Tanner, S. H. Russell & Co. 1 50

Wells completed 12
Production 255
Dry 6

HANCOCK COUNTY

Pellville—Jackson, Doug. Boiling 2 100
Buck Parrett, Ira Huff 1 35
Elec Jackson, Hupp, Duff & Co. 3 .. 10
J. B. Smith, Arthur Ford 1 ..... gas
Della Lain, Hardly Able Oil 1 ..... dry

Wells completed 5
Production 145
Dry 1
Gas 1

McLEAN COUNTY

Calhoun — Nina Wilhite, Cameron, Thompson & Co. 2 40
Turner, Ellis & Young 2 40
Central State Bank, Mel Root & Co. 2 50
King, Vickers & Co. 1 35
King, Cobb & Co. 2 100
King, Miller & Damron 2 135
L. C. Atherton, Ziegler O. & G. and Engle 3 300
Bailey Bros., Ivyton Oil & Gas 1 .... dry

Wells completed 8
Production 680
Dry 1

HENDERSON COUNTY

Niagara—S. A. Freeman, Imperial Oil & Gas Products 1 35
Dick Jennings, Imperial Oil & Gas Products 2 ..... dry
Jones, Imperial Oil & Gas Products 1 60

Wells completed 3
Production 95
Dry 1

WEBSTER COUNTY

Sebree—S. K. Sutton, Iley Browning 2. gas

HOPKINS COUNTY

Madisonville—Near Crofton, United Pet. 1, 2 ..... gas
T. W. Reynolds, Federal Fuel Corp. 1. gas

Wells completed 2
Gas 2

CHRISTIAN COUNTY

Hopkinsville — Near Dawson Springs, Pratte Bros. 1 ..... dry

BRECKENRIDGE COUNTY

Hardinsburg—McQuade, Paul Page 1 .. 5

GRAYSON COUNTY

Near Litchfield—Unknown, Goldboss & Co. 1 ..... gas

EASTERN FIELDS

Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Allegany	25	97	1	0
Bradford	48	90	0	0
Venango-Clarion	6	3	2	1
Butler-Armstrong	1	1	0	0
Middle Field	1	3	0	0
Tioga-Wayne	14	0	11	3
Southwest Pennsylvania	8	49	0	2
Southeast Ohio	25	311	4	8
West Virginia	38	13	6	29
Total December	166	567	24	43
Total November	212	456	24	62
Difference	46	111	0	19

Summary of Rigs and Wells Drilling

Field—	Rigs	Drlg.	Ttl.
Allegany	2	15	17
Bradford	7	25	32
Venango-Clarion	0	4	4
Butler-Armstrong	2	4	6
Middle Field	0	1	1
Tioga-Wayne	5	32	37
Southwest Pennsylvania	4	9	13
Southeast Ohio	9	21	30
West Virginia	16	49	65
Total December	45	160	205
Total November	49	193	242
Difference	4	33	37

WELLS COMPLETED

ALLEGANY

Fee, Hugh Flynn Oil Co. 1
Kurtzhaltz, E. G. and F. W. Stephan.. 1
Kurtzhaltz, E. G. and F. W. Stephan.. 1
Fee, Miller Bros. et al 5
Fee, Miller Bros. et al 20
Fee, Leland Oil Co. 1
Lippert, Mary Lippert 1
Fee, Ryder and Richmond Oil Corp. ... 2
Fee, Ryder and Richmond Oil Corp. ... 2
Meridian, N. V. V. Franchot 2
Fee, Miller Bros. et al 10
Fee, Miller Bros. et al 15
Warters, C. M. and F. J. Lippert 2
Bennett, Mrs. Hazel Jordan 1
Fee, Forest Oil Corp. 1
Fee, Asa A. Root et al .....pressure
Fee, Sawnett Oil Corp. .....pressure
Childs, Shaner et al 5
South Penn, Bradley & Streeter 5
Osterstuck, Shaner & Sawyer ..... dry
Childs, First Natl. Bank of Bolivar 18.. 2
Pierce, F. L. and M. A. Outnam 3
Fee, Macadam Oil Co. 5
Fee, R. J. Dermitt 3
Fee, Gilligan & Willard 4

Completions 25
Production 97
Dry 1
Pressure 2

BRADFORD

Fee, Mix Creek Oil Co. .....pressure
Fee, D. M. Hoffman estate 1
Fee, G. W. Smith estate 1
Rounds, J. W. Kaufman estate 4
Fee, E. D. Kepner Oil Co. 4
Fee, Grow Farm Oil Co. 2
Fee, Forest Oil Corp. .....pressure
Fee, Forest Oil Corp. 1
Fee, Forest Oil Corp. 1
Fee, Forest Oil Corp. 1
Fee, Forest Pet. Corp. .....pressure
Fee, Forest Pet. Corp. .....pressure
Fee, Forest Pet. Corp. .....pressure
Fee, Forest Pet. Corp. 1
Fee, Forest Pet. Corp. 1
Bingham 263, H. E. Camp estate 87 .. 1
Bingham 266, Brink & Brink 63 3
Corwin, Cora M. Simons 39 2
Corwin, Corwin & Gallagher 13 2
Fee, Alice Freeman 17 2
Hamilton, S. H. Elder 7 1
Fee, M. Hungerville 20 2
Fee, M. Hungerville 21 3
Quintuple, Healey Pet. Corp. 1
Fee, Stanley C. Morian 2
Fee, Myron W. Matson .....pressure
Quintuple, I. D. Miller et al 5
Fee, S. and L. Tartarella 1
Burdic, South Penn Oil Co. .....pressure
Fee, Mrs. Maud Roat .....pressure
Franchot, Carl Oliver 1
Franchot, E. R. Maxwell 1
Fee, R. O. Landers et al 5
Morris, H. L. Morris 6
DeGolier, Healey Pet. Corp. 4
Cram, Minard Run Oil Co. .....pressure
Newell, E. E. Bryner & Son 1
Quintuple, Forest Pet. Corp. 1
Quintuple, McKean Prod. Co. 2
Quintuple, W. M. Howard 1
Fee, K. R. Hankison 10
Hunt, Healey Pet. Corp. 1
Fee, H. J. Walter Oil Co. 1
Melvin, South Penn Oil Co. 1
Willet, Bradford Prod. Co., Inc. 10
Fee, L. G. Dana et al 2 2
Boocks, F. M. Boocks 1
Duke, Sloan and Zook Oil Co. 1...pressure

Completions 48
Production 90
Pressure 10

VENANGO-CLARION

Sterner, Fryburg Motor Co. 3 ..... gas
Helscel, C. F. & C. O. & G. Co. 15 1
Henderson, Robt. and Geo. Foggan 44.. 1
Carson, Clarion County Natl. Bank 20.. dry
Peebles, F. H. Voorhess 9 1
Lewis, S. R. Lewis 1 ..... dry

Completions 6
Production 3
Dry 2
Gas 1

BUTLER-ARMSTRONG

Barkey, M. B. Finnessy 31 1

Completion 1
Production 1

MIDDLE FIELD

Fee, F. M. Boocks 3

Completion 1
Production 3

TIOGA-WAYNE

Hoyt, Lycoming Nat. Gas Corp. ..... gas
Boom, Penn United Gas Co. ..... dry
Ryder, Brad-Lawrence Co. ..... dry
Cummings, Vaugh and Rose ..... dry
Barcroft, Penn Realty & Inv. Co. ..... gas
Colegrove, Penn Realty & Inv. Co. ..... gas
Braisted, Mosherville O. & G. Co. ..... dry
Mittendorf, Schellheimer et al ..... dry
Myers, Schrack et al ..... dry
Smith, Taliaferro Co. ..... dry
Whitney, Morgan Hague Co. ..... dry
Boom, Penn United Gas Co. ..... dry
Herrington, Lycoming Gas Co. ..... dry
Middaugh, North Branch Dev. Co. ..... dry

Completions 14
Dry 11
Gas 3

SOUTHWEST PENNSYLVANIA

WELLS COMPLETED

ALLEGHENY COUNTY

Ramp heirs, F. P. Martin 1 2
Wallace heirs, Bream Oil Co. 1 1
Kennedy, Local Company 1 3

BEAVER COUNTY

Young, J. L. Abras et al 3 1

GREENE COUNTY

Gregga, J. L. Garard & Co. 25 2

WASHINGTON COUNTY

Walker, Ray Orril & Co. 1 40
Brownlee, Carnegie Nat. Gas Co. 1.... gas
Stout, Nat. Gas Co. of W. Va. 2 ..... gas

SOUTHEAST OHIO

WELLS COMPLETED

CARROLL COUNTY

Scott heirs, Home Co. 1 ..... dry

COSHOCTON COUNTY

Allen, Kundtz, Hulse, Inc., et al 2 50

FAIRFIELD COUNTY

King,-Johnston, King-Johnston O. & G. Co. 1 ..... gas

GUERNSEY COUNTY

Shriver, Bay & Milhone 1 ..... gas
Smith, Keith & Saladay 1 ..... ½
Cramlett, E. C. Quillan, et al 1 40
Fowler, Commonwealth Gas Corp. 3 40

HARRISON COUNTY

Milliken, McCray et al 1 ..... ½

JEFFERSON COUNTY

McClelland, Owens & Co. 1 ..... dry

LICKING COUNTY

Burkholder, W. S. McCloy et al 1 55

MEDINA COUNTY

Funk, T. Barnhard et al 2 25
Essig, Oko Oil & Gas Co. 50 6
G. Packard, E. R. Edson & Son Co. 28.. 2
Franks, E. R. Edson & Son Co. 30 .... dry
Essig, Oko Oil & Gas Co. 51 2
Packard, E. R. Edson & Son Co. 29 35

MUSKINGUM COUNTY

Boyer, M. F. Whitehill 5 40
Bendure, Atha Oil Co. 1 ..... dry

NOBLE COUNTY

McKee, Permian Oil & Gas Co. 1 ..... gas

PERRY COUNTY

Wilkins, Mid-East Gas Co. 1 ..... gas

TUSCARAWAS COUNTY

Hogue, Gordon Oil Co. 1 ..... gas
Long, Ohio Falls Drlg. & Sup. Co. 1 .. gas

WASHINGTON COUNTY

Webber, Thomas McVey et al 1 ..... gas
Wickens, Elmer Wickens 12..... 15

HOCKING COUNTY

Geiger, Griffin Prod. Co. 1 ..... gas

WEST VIRGINIA

WELLS COMPLETED

BOONE COUNTY

Covert, Trace Fork Gas Co. 2 ..... gas

CABELL COUNTY

Lucas, B. C. K. Gas Co. 1 ..... gas
Ben Lomond Land Co., C. C. Wolfe 3.. gas

CALHOUN COUNTY

Bennett heirs, W. H. Bickle 5 ..... gas
Meadows, Mud Lick Oil & Gas Co. 1 .. dry
Stump, W. S. Dailey et al 1 ..... gas
Carroll, L. B. Carroll 12 ..... gas

DODDRIDGE COUNTY

Stutler, Travis Oil & Gas Co. 2 ..... gas

GILMER COUNTY

Frame, O. E. Garrett et al 1 ..... gas
Stout, McCall et al 4 ..... gas
Stump, Chartiers Oil Co. 4 ..... gas
Roberts, Clem Morris et al 2 ..... gas
Gainer, A. E. Ellis et al 1 ..... gas
Gains, Pgh. & W. Va. Gas Co. 4,797 ... gas
Spurgeon, Pgh. & W. Va. Gas Co. 7,570 gas

HANCOCK COUNTY

Brenneman, R. J. Braden & Co. 1 7

HARRISON COUNTY

Fittro, Washington Gas Co. 1 ..... gas

KANAWHA COUNTY

Wrightsville, Winifrede Co. 15 ..... dry
Winifrede, Winifrede Co. 17 ..... dry

LINCOLN COUNTY

Braggs, Hamilton Gas Co. 1 ..... gas

Miller, Laurel Gas Co. 2 ..... gas
Honaker, Woodyal Gas Co. 1 ..... gas

LOGAN COUNTY

Dingus Run Coal Co., W. Va. Nat. Gas Co. 35 ..... gas

MARSHALL COUNTY

Williams, G. B. and A. G. Patterson 1. gas

MASON COUNTY

Newton, Berea Gas & Oil Corp. 8 ..... dry

MINGO COUNTY

Spaulding, W. H. Norton, trustee, 3 ... gas

MONONGALIA COUNTY

Six, Duquesne Gas Co. 1 ..... dry
Hennen, Eddy & Johnson 1 ..... gas

RITCHIE COUNTY

Moore, H. N. Rinehart 7 ..... dry
Wright, Diamond Supply Co. 1 ..... gas
Johnson heirs, J. F. Deem et al 2 ..... gas

ROANE COUNTY

Ferrell, Ohio Valley Gas Co. 2 ..... gas
Roberts, Pell & Newman, Federal Oil & Gas Co. 51 ..... gas

TYLER COUNTY

Baker, Hope Nat. Gas Co. 1 5

WAYNE COUNTY

Jones heirs, Meabon and Huffman 1.... gas
Wilson heirs, Wayne United Gas Co. 49 gas
Baldwin, Wayne United Gas Co. 50 .... gas

WIRT COUNTY

Vandervender, W. C. Patterson 18 1

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ashland	1	0	1	0	2	2	4
Lorain	2	0	0	2	1	4	5
Medina	8	130	2	0	3	3	6
Holmes	0	0	0	0	0	3	3
Cuyahoga	0	0	0	0	0	2	2
Richland	0	0	0	0	0	2	2
Coshocton	2	40	0	1	0	2	2
Summitt	1	0	1	0	0	2	2
Licking	1	0	1	0	1	5	6
Muskingum	3	54	1	1	4	6	10
Athens	1	0	0	1	2	9	11
Tuscarawas	3	0	1	1	2	2	4
Stark	14	0	3	11	8	25	33
Fairfield	2	0	0	2	0	0	0
Knox	2	0	1	1	0	0	0
Guernsey	5	88	0	1	0	3	3
Belmont	2	0	0	3	0	3	3
Gallia	0	0	0	0	0	1	1
Scioto	0	0	0	0	0	2	2
Pike	0	0	0	0	0	2	2
Carroll	1	0	1	0	0	4	4
Columbiana	0	0	0	0	0	1	1
Total Dec.	47	312	12	24	23	83	106
Total Nov.	55	305	13	29	28	97	125
Difference	8	7	1	5	5	14	19

WELLS COMPLETED

ASHLAND COUNTY

Jackson—O. C. Good, Commonwealth Gas Corp. 1 ..... dry

LORAIN COUNTY

Carlisle—P. W. Bruse, Ohio Fuel Gas Co. 1-5,578 ..... gas
Columbia—A. E. Baker, Ohio Fuel Gas Co. 1-5,573 ..... gas

Wells completed 2
Gas 2

MEDINA COUNTY

Chatham — Chas. Gunsal, Preston Oil 8-1,494 15
Henry Essig, Oko Oil & Gas 21 20
Henry Essig, Oko Oil & Gas 22 5
Geo. W. Packard No. 1, Edson Sons Co. 28 15
Geo. W. Packard No. 1, Edson Sons Co. 29 15
Marcus Frank, Edson Sons Co. 32 ... dry
Marcus Frank, Edson Sons Co. 33 ... 60
Liverpool — Geo. Zacharies, Ohio Fuel Gas 2-5,577 ..... dry

Wells completed 3
Production 130
Dry 2

COSHOCTON COUNTY

Newcastle — French G. Allen, Hulse-Kundtz, Inc., 3 40
Mill Creek—H. E. Arnold, Ohio Gas Light & Coke Co. 9 ..... gas

Wells completed 2
Production 40
Gas 1

SUMMITT COUNTY

Copley—Kinfield-Thornton, White & Bacon 1 ..... dry

LICKING COUNTY

Monroe—Holley M Baxton, Hope Construction & Ref. 1 ..... dry

MUSKINGUM COUNTY

Hopewell—Jos. Boyer, Whitehill Oil 6.. 54
Washington—Homer Bendure, Atha Co. 1 ..... dry
Brush Creek—Orin Perdew, Sagle & Co. 1 ..... gas

Wells completed 3
Production 54
Dry 1
Gas 1

ATHENS COUNTY

Berne—W. J. Pinkerton, Bowman Oil & Gas 1 ..... gas

TUSCARAWAS COUNTY

Washington — Clarence Hogue, Oxford Oil & Gas 1 ..... dry
Sandy—Ed V. Steele, Status Dev. Co. 1 gas

Wells completed 2
Dry 1
Gas 1

STARK COUNTY

Jackson—Ray C. Thompson, Ohio Fuel Gas 1-5,581 ..... gas
Martha Bricker, Ohio Fuel Gas 2-5,583 gas
Victor Boren, Ohio Fuel Gas 1-5,584. gas
Leo Frank, East Ohio Gas 1 ..... gas
T. K. Harris, East Ohio Gas 2, 3 ... gas
John Strouble, East Ohio Gas 2 ..... gas
John Marsille, Medford Oil & Gas 3.. gas
Sam Williaman, Brendall & Co. 1 ... dry
D. M. Harold, Brendall & Co. 1 ..... gas
Paul F. Sheets, Brendall & Co. 1 .... gas
E. Lewis, Boettler & Co. 1 ..... gas
Lawrence—M. Rowland, Wittmer Oil & Gas 1 ..... dry
Paris—H. & M. Essick, Timken Roller Bearing Co. 1 ..... dry

Wells completed 14
Dry 3
Gas 11

FAIRFIELD COUNTY

Richland—Mary E. Kerr, Perry Sturm & Co. 1 ..... gas
Rush Creek — W. S. Johnston, Perry Sturm & Co. 1 ..... gas

Wells completed 2
Gas 2

KNOX COUNTY

Jefferson—C. V. Banbury, Ohio Fuel Gas 1-5,592 ..... dry
Union—J. H. Colopy, Hulse & Kundtz, Inc., 6 ..... gas

Wells completed 2
Dry 1
Gas 1

GUERNSEY COUNTY

Wheeling—J. N. Fowler, Commonwealth Oil Corp. 3 40
Isiah Cremlett, E. O. Quillan & Co. 2 40
Jackson—Bertha Smith, W. Keith & Co. 3 3
Wm. Millhouse & Co., R. R. Neddleson & Co. 7 ..... gas
Cadis—John Milliken, McCray & Co. 1. 5

Wells completed 5
Production 88
Gas 1

BELMONT COUNTY

Somerset—Sarah Hughes, M. W. Fulton & Co. 2 ..... gas
S. P. Butler, Washmuth, Callahan & Co. 2 ..... gas

Wells completed 2
Gas 2

CARROLL COUNTY

Orange—J. H. Scott heirs, Turner & Co. 1 ..... dry

LIMA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	0	0	0	0	0	0	0
Hancock	2	22	0	0	0	0	0
Allen	0	0	0	0	0	0	0
Seneca	2	40	0	1	0	5	5
Lucas	1	0	1	0	0	2	2
Ottawa	1	5	0	0	0	0	0
Hardin	2	25	0	0	0	1	1
Shelby	0	0	0	0	0	2	2
Logan	0	0	0	0	1	0	1
Putnam	0	0	0	0	0	1	1
Darke	1	0	0	1	0	0	0
Wyandot	2	250	0	1	2	6	8
Total Dec.	11	342	1	2	3	17	20
Total Nov.	13	33	2	8	3	18	21
Difference	2	309	1	5	0	1	1

WELLS COMPLETED

WOOD COUNTY

Montgomery — Bertha Phillips, Onsel Bros. 1, 2, 3 ..... abd
Bloom—Dora Moke, Ohio Oil 7 ..... abd
Liberty—Thos. W. Knight, Ohio Oil 2.. abd
Mercer & Carlin, Ohio Oil 11, 13, 19. abd
H. C. Killian, Ohio Oil 5 ..... abd
J. H. Mitchell, Ohio Oil 7, 13 ..... abd
J. M. Stafford, Ohio Oil 7 ..... abd
Plain—Oliver C. Mitchell, Ohio Oil 8 .. abd

Abandoned 13

HANCOCK COUNTY

Portage—Isaac Hart, Mathias Bros. 15. 2
G. A. Mitchell, Ohio Oil 6, 7, 11 .... abd
Allen—S. A. and G. V. Poe, Ohio Oil 1. abd
S. R. Huntington, Ohio Oil 5, 6 ..... abd
Liberty—Joe Ernst, L. Cramer 5 20
Wm. Remminger, Ohio Oil 14 ..... abd
H. P. Clark, Ohio Oil 4, 15 ..... abd
P. J. Reimund, Ohio Oil 9..... abd
J. Cooper, Jr., Ohio Oil 9, 13 ..... abd
Mary M. Reed, Ohio Oil 6, 8, 13 .... abd
F. Stoker fee, Ohio Oil 16 ..... abd
Gibson-Richardson, H. O. McKay 1, 2 abd

Wells completed 2
Production 22
Abandoned 18

ALLEN COUNTY

Perry—Wm. Zeitz, Ohio Oil 5 ..... abd
Ottawa—John Hofman, F. J. Sawmiller 2 ..... abd
Bath—J. W. Fetter, C. C. Apple 1 .... abd
Jackson—J. N. I. Cool, Ira B. Post No. 2 & Co. 3 ..... abd

Abandoned 4

SANDUSKY COUNTY

Washington—W. W. Engler, Ohio Oil 1, 2, 3, 4, 5 ..... abd
N. Engler, Ohio Oil 1, 2 ..... abd
M. L. Overmyer, D. J. Klingman 1.. abd
Rice—A. Kreslick, Ohio Oil 9, 10 .... abd
Sandusky—B. F. Lattig, Ohio Oil 9, 11. abd
Emma N. Hensel, Ohio Oil 3 ..... abd
S. B. Waggoner, Ohio Oil 9, 17 ..... abd
Mrs. D. Hensel, Ohio Oil 1 ..... abd
Jessiah Wolf, Ohio Oil 1 ..... abd
Scott—C. Bowman, Ohio Oil 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 ..... abd
A. B. Manchester, Ohio Oil 1, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31, 32.... abd
A. B. Manchester No. 2 farm, 2, 5, 6, 7, 9, 10 ..... abd

Abandoned 56

SENECA COUNTY

Liberty—J. W. Zeis, J. W. Zeis 1 ..... gas
Seneca—E. F. Vogel, Youngstown Oil & Gas 1 40
Wells completed 2
Production 40
Gas 1

LUCAS COUNTY

Providence—Ed Calkins, Lake Shore & Southwestern Metal 1 ..... dry
Oregon—A. L. Metzger, Ohio Oil 2, 4, 5, 7, 9, 10, 11, 12, 13, 14 ..... abd
Ira A. Kent, Ohio Oil 3, 4 ..... abd
J. H. Heckman, Ohio Oil 1, 2 ..... abd
Mary Woyame, Ohio Oil 1, 2 ..... abd
Celestin Gladieux, Ohio Oil 1 ..... abd
Koch & Smith, Ohio Oil 1 ..... abd
Helmke & Kruse, Ohio Oil 2, 3..... abd
Henry Helmke, 1, 2, 3, 4, 6 ..... abd

Abandoned 25

OTTAWA COUNTY

Salem—Gnepper, Richards & Co. 3 5

HARDIN COUNTY

Cessna—Grant Geiger, Wiser Oil 7 5
Grant Geiger, Wiser Oil 8 20

Wells completed 2
Production 25

DARKE COUNTY

Mississinewa-Walter Richardson, Lee Booth 2 ..... gas

WYANDOT COUNTY

Tymochtee — Bowman-Brillhart, McPheron, Miller & Cook 3 250
Josephine Higgins, Jones & Coyle 2 . gas

Wells completed 2
Production 250
Gas 1

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Huntington	0	0	0	0	0	1	1
Gibson	3	200	0	1	0	2	2
Pike	4	75	0	2	0	3	3
Daviess	1	0	1	0	0	6	6
Sullivan	1	0	1	0	0	3	3
Warrick	0	0	0	0	0	1	1
Spencer	0	0	0	0	0	6	6
Knox	1	0	1	0	0	5	5
Perry	3	5	2	0	0	6	6
Marshall	0	0	0	0	1	1	2
LaGrange	0	0	0	0	0	1	1
Putnam	0	0	0	0	0	1	1
Posey	0	0	0	0	0	1	1
LaPorte	0	0	0	0	0	1	1
St. Joe	0	0	0	0	0	1	1
DeKalb	0	0	0	0	0	1	1
Rush	0	0	0	0	0	2	2
Elkhart	0	0	0	0	1	0	1
Vandeburg	0	0	0	0	1	0	1
Hancock	0	0	0	0	0	1	1
Hamilton	0	0	0	0	0	2	2
Dearborn	0	0	0	0	0	1	1
Harrison	1	0	0	1	0	2	2
Crawford	0	0	0	0	1	0	1
Henry	1	0	0	1	0	1	1
Clay	0	0	0	0	0	1	1
Greene	0	0	0	0	0	3	3
Switzerland	0	0	0	0	0	1	1
Pulaski	0	0	0	0	0	1	1
Total Dec.	15	280	5	5	4	55	59
Total Nov.	19	80	11	4	4	60	64
Difference	4	200	6	1	0	5	5

WELLS COMPLETED

GIBSON COUNTY

Patoka—Munford heirs, Ohio Oil 6.... abd
Columbia—Geo. B. Allen, Wabash Public Service Corp. 1 ..... gas
Washington—C. T. Sloan, Big Four Oil & Gas 5 100
Agnes Haskins, Gib Van Oil 3 100
C. A. Shawhan, Ohio Oil 1, ... abd
Wm. Hyneman, Ohio Oil 1 ..... abd
Edith Hyneman, Ohio Oil 1 ..... abd

Wells completed 3
Production 200
Gas 1
Abandoned 4

PIKE COUNTY

Washington—Harley Craig, H. A. Moore 2 ..... gas
Morrison Sisters, C. E. Wommer Oil Co. 3 ..... gas
Taliaferro, C. C. Taliaferro, Jr. 2.... 5
Logan—Glendora Robling, Chas. L. Diver & Co. 1 70
Madison—Laura C. Stewart, Ohio Oil 1. abd

Wells completed 4
Production 75
Gas 2
Abandoned 1

DAVIESS COUNTY

Veale—Ross, Ross & Co. 1 ..... dry

SULLIVAN COUNTY

Turman—C. L. Daviss, C. W. Scott 6... dry

SPENCER COUNTY

Hupp—Wm. Grass, I. A. Polhamus 2.... abd

KNOX COUNTY

Busseron—John Black, Lierson & Co. 1. dry

PERRY COUNTY

Clark—Jno. Kaufman, Hughes, Rife & Co. 1 5
Anderson—Ben Harpman, Lane, Beard & Co. 1 ..... dry
Wm. Schmall, unknown parties 1.... dry

Wells completed 3
Production 5
Dry 2

HARRISON COUNTY

Taylor—Dan Cunningham, Wyandot Oil & Gas 1 ..... gas

HENRY COUNTY

Near Newcastle—Charles E. Jackson, Delph & Chew 1 ..... gas

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	0	0	0	0	0	2	2
Coles	0	0	0	0	0	1	1
Edgar	0	0	0	0	0	1	1
Crawford	0	0	0	0	1	2	3
Lawrence	0	0	0	0	0	1	1
St. Clair	0	0	0	0	0	2	2
Randolph	0	0	0	0	0	2	2
Monroe	0	0	0	0	0	3	3
Washington	0	0	0	0	0	1	1
Boone	0	0	0	0	0	1	1
Madison	0	0	0	0	0	2	2
Jefferson	0	0	0	0	0	1	1
Jasper	0	0	0	0	0	1	1
Total Dec.	0	0	0	0	1	20	21
Total Nov.	3	16	1	0	1	16	17
Difference	3	16	1	0	0	4	4

WELLS COMPLETED

LAWRENCE COUNTY

Petty—J. W. Bolles No. 1, Ohio Oil 4, 7, 8 ..... abd
W. E. Updike, Ohio Oil 1 ..... abd

Abandoned 4

ST. CLAIR COUNTY

Sugar Loaf—Nevada Cooper No. 2, Hart & Woodworth 1 ..... abd
Hall & Wallace lots, Pilot Oil 1 .... abd
C. P. Crough, C. E. Karns & Co. 1.. abd
Lucy Carr, T. W. Stehlin 1 ..... abd
Dupo Lumber & Hardware, L. G. Blackman & Co. 1 ..... abd
John Shult, L. G. Blackman & Co. 1 abd
Joseph Reichert, Ohio Oil 1 ..... abd
Earl Propper, C. Roques & Co. 1 .... abd
Peter Kurtz, Majestic Oil & Gas 1 .. abd
C. F. Mason, Ostos Pogue 1 ..... abd
G. W. Ludwig, Stinsen & Henry 1 .... abd
Laura J. Miller, Kansas-Illinois Drilling Co. 1 ..... abd

Abandoned 12

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Muskegon	0	0	0	0	1	2	3
Isabella	4	780	2	0	18	30	48
Midland	8	2,170	2	0	13	13	26
Clare	1	0	1	0	3	1	4
Mecosta	0	0	0	0	1	0	1
Lake	0	0	0	0	0	2	2
Cass	0	0	0	0	0	2	2
Kent	0	0	0	0	1	2	3
Ottawa	0	0	0	0	1	1	2
Oceana	0	0	0	0	1	6	7
Emmett	0	0	0	0	0	1	1
Eaton	0	0	0	0	1	0	1
Kalkasky	0	0	0	0	1	1	2
Ioso	0	0	0	0	2	0	2
Monroe	0	0	0	0	1	1	2
Lenawee	0	0	0	0	0	1	1
Washtenaw	0	0	0	0	0	1	1
Wayne	1	0	1	0	0	0	0
Missaukee	0	0	0	0	1	0	1
Delta	0	0	0	0	1	0	1
Montmorency	0	0	0	0	1	0	1
Van Buren	0	0	0	0	0	2	2
Sanilac	0	0	0	0	3	0	3
Gratiot	1	0	0	1	2	0	2
Shiwassee	0	0	0	0	2	2	4
Livingston	0	0	0	0	1	1	2
Allegan	0	0	0	0	0	6	6
Leelanau	0	0	0	0	1	0	1
Osceola	0	0	0	0	2	0	2
St. Clair	0	0	0	0	1	0	1
Gennessee	0	0	0	0	1	0	1
Alpena	0	0	0	0	1	0	1
Cheboygan	0	0	0	0	0	1	1
Kalamazoo	0	0	0	0	0	1	1
Huron	0	0	0	0	0	1	1
Oakland	0	0	0	0	1	0	1
Macomb	0	0	0	0	1	0	1
Newyago	0	0	0	0	1	5	6
Bay	0	0	0	0	1	1	2
Mason	0	0	0	0	0	4	4
Saginaw	0	0	0	0	1	0	1
Total Dec.	15	2,950	6	1	66	88	154
Total Nov.	13	11,975	2	2	70	86	156
Difference	2	9,025	4	1	4	2	2

WELLS COMPLETED

ISABELLA COUNTY

Vernon—Ben Loomis, Old Dutch Ref. 1 dry
J. C. Schug, Mammoth Oil Co. 1 700
J. M. Crowley, Mellon-Pollock Oil 2. dry
John Brief & Co., Mellon-Pollock Oil 2 80

Wells completed 4
Production 780
Dry 2

MIDLAND COUNTY

Greendale—Geo. Hornick, Columbia Oil & Gas 2 1000
F. & P. McLaughlin, Columbia Oil & Gas 2 550
Solms Bros., W. L. McClanahan & Co. 1 ..... dry
Rheimenschneider, Strange-Weller 1. 250
Wampler, Pure Oil 1 70
Fred Sias, Pure Oil 5 ..... dry
DePuy, Pure Oil 1 250
A. Reinhart, Wellman Oil 1 50

Wells completed 3
Production 2170
Dry 2

CLARE COUNTY

Grant—Daniel Coyne, Michigan Oil & Gas Corp. 1 ..... dry

WAYNE COUNTY

Van Buren—Berry's Corners, Unknown 1 dry

GRATIOT COUNTY

Elba—I. J. Askegard, Miller & Combs 1 gas

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for November

Runs

	Month (bbls.)	Dy.av. (bbls.)
Prairie P. L. Co.*	705,000	23,500
Gulf P. L. Co.	1,710,611	57,020
Texas P. L. Co.	779,160	25,972
Magnolia P. L. Co.	1,683,675	56,123
Empire P. L. Co.	2,507,976	83,599
Coaden P. L. Co.	670,597	22,353
Stanolind P. L. Co.*	3,300,000	110,000
Oklahoma P. L. Co.	2,067,697	68,923
Other lines	6,137,700	204,590
Total November	19,562,416	652,080
Total October	16,133,640	520,440
Difference	3,428,776	131,640

Shipments

Prairie P. L. Co.	2,778,792	92,626
Gulf P. L. Co.	1,229,969	40,999
Texas P. L. Co.	1,027,055	34,235
Magnolia P. L. Co.	1,424,446	47,482
Empire P. L. Co.	2,309,020	76,967
Coaden P. L. Co.	847,224	28,241
Stanolind P. L. Co.	3,622,000	120,750
Oklahoma P. L. Co.	1,940,538	64,685
Other lines*	4,650,000	155,000
Total November	19,829,044	660,985
Total October	20,000,828	645,188
Difference	171,784	15,797

Stocks

Prairie O. & G. Co.*	35,781,000
Gulf P. L. and Gypsy Oil Co.	8,036,722
The Texas Company	2,598,218
Magnolia Petroleum Co.	7,330,313
Empire P. L. Co.	3,637,085
Mid-Continent Petroleum Corp.	3,280,873
Stanolind Crude Oil Pur. Co.*	15,631,000
Oklahoma P. L. Co.	1,394,820
Carter Oil Co.	6,853,352
Other lines*	15,482,000
Total November	100,025,383
Total October	98,180,971
Difference	1,844,412

*Estimated.

EASTERN PIPE LINE REPORT FOR MONTH OF NOVEMBER

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for October and November:

	Oct., 1931	Nov., 1931
Nat. Transit	154,511.51	124,750.97
S W Pa. P. L.	79,162.91	74,098.69
Eureka P. L.	321,500.13	283,984.98
Buckeye P. L. (Macksburg)	282,641.28	257,058.99
Buckeye P. L. (Cleveland)	12,576.07	12,136.62
Buckeye P. L. (Lima, etc.)	85,128.77	66,302.98
Indiana P. L.	3,549.84	2,833.35
N. Y. Transit	36,518.13	37,877.10
Tide Water P. L.	23,520.70	23,526.84
Pure Oil	313,618.79	294,109.73
Stoll Oil Ref.	69,655.93	77,377.78
Bradford Tran.	476,204.68	396,444.31
Ashland Ref.	144,886.55	144,095.48
Total	2,002,475.44	1,794,597.72
Daily average	64,596.98	59,819.92

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for October and November:

	Oct., 1931	Nov., 1931
Nat. Transit	582,367.42	555,055.73
S W Pa. P. L.	479,783.62	353,585.56
Eureka P. L.	354,253.27	270,980.17
Buckeye P. L. (Macksburg)	284,152.11	228,820.83
Buckeye P. L. (Cleveland)	1,712.38	1,715.98
Buckeye P. L. (Lima, etc.)	1,712,258.64	1,703,435.58
Indiana P. L.	856,217.10	754,554.80
Southern P. L.	69,625.59	70,467.39
N. Y. Transit	191,559.68	193,298.27
Northern P. L.	168,179.98	151,356.84
Tide Water P. L.	516,207.68	424,477.09
Pure Oil	268,732.25	394,500.51
Bradford Tran.	559,039.81	413,554.01
Tuscarora	346,805.63	266,328.33
Ashland Ref.	144,886.55	112,625.92
Total	6,535,782.71	5,892,757.31
Daily average	210,831.70	196,425.24

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of October and November:

	Oct., 1931	Nov., 1931
Nat. Transit	673,029.18	695,594.17
S W Pa. P. L.	435,631.31	415,253.99
Eureka P. L.	1,162,617.18	1,207,018.46
Buckeye P. L. (Macksburg)	307,630.86	284,227.39
Buckeye P. L. (Cleveland)	36,248.81	46,414.61
Buckeye P. L. (Lima, etc.)	2,659,895.96	2,616,930.98
Indiana P. L.	551,521.77	561,296.24
Cumberland P. L.	64,611.76	64,408.44
Southern P. L.	233,968.56	183,750.86
N. Y. Transit	99,292.01	111,520.13
Northern P. L.	300,534.94	328,199.83
Tide Water P. L.	1,015,782.92	941,847.74
Pure Oil	556,871.54	481,451.24
Tuscarora	11,658.70	11,135.10
Bradford Trans.	808,399.51	828,694.79
Ashland Ref.		552,649.50
Total	8,417,694.91	8,830,386.27
Decrease	74,736.52	
Increase		412,691.46

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of October and November, showing gross stocks of the above fields:

	Oct., 1931	Nov., 1931
Pennsylvania	3,031,430.00	2,961,620.08
Lima	619,693.95	602,227.52
Kentucky	75,019.27	627,465.45
Mid-Continent	4,145,615.17	4,143,909.75
Illinois		23,229.59
Michigan	546,936.52	471,933.88
Total	8,417,694.91	8,830,386.27

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1928	1929	1930	1931
Jan.	52,904	51,749	75,907	53,939
Feb.	57,002	51,833	79,256	55,163
Mar.	57,485	54,252	76,688	54,331
April	56,813	58,444	84,536	54,914
May	62,067	59,902	70,546	53,344
June	58,230	58,833	75,430	54,110
July	57,144	56,087	68,921	50,723
Aug.	57,745	56,087	54,291	51,503
Sept.	53,487	57,315	56,595	51,345
Oct.	58,100	76,093	58,179	54,595
Nov.	53,865	74,831	52,332	59,819
Dec.	52,025	74,561	53,999	

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1928	1929	1930	1931
Jan.	146,465	166,731	217,623	175,369
Feb.	167,368	159,387	224,355	183,494
Mar.	155,885	161,474	228,846	189,508
April	172,935	169,727	241,845	191,450
May	180,559	184,231	248,383	199,247
June	188,024	185,404	234,401	221,155
July	189,470	194,763	207,094	211,632
Aug.	192,853	194,946	205,506	224,166
Sept.	194,138	201,214	193,999	217,537
Oct.	176,000	191,367	157,675	210,831
Nov.	176,898	202,743	146,638	196,425
Dec.	173,572	186,257	143,001	

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1929	1930	1931
Jan.	7,596,564	12,320,045	11,831,091
Feb.	8,738,835	12,991,561	11,506,489
Mar.	9,002,058	13,247,217	11,012,163
April	8,978,173	13,233,961	11,044,437
May	8,905,560	13,052,953	10,728,239
June	8,921,275	13,396,855	9,903,349
July	9,211,565	13,268,562	9,569,849
Aug.	9,440,642	13,047,051	9,192,457
Sept.	9,443,067	12,812,018	8,492,431
Oct.	9,441,101	12,437,553	8,417,694
Nov.	9,868,538	11,851,330	8,830,386
Dec.	11,253,953	11,751,952	

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

	Bbls.
Gross stocks, Dec. 1	429,304.17
Runs from wells	446,775.79
Regular deliveries	281,258.43
Other deliveries	190,386.80

The amount of Illinois oil run by the Tide Water Pipe Co. in November was 23,526.84 bbls. Deliveries were none. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1931—		
November	470,302.63	281,258.43
1930—		
January	543,387.95	498,293.91
February	548,416.33	414,536.59
March	631,944.49	469,119.53
April	530,074.22	509,304.60
May	605,147.37	504,069.84
June	572,662.57	468,658.81
July	604,529.54	388,454.47
August	594,642.12	375,742.43
September	457,001.11	371,691.63
October	478,442.13	320,688.73
November	422,794.68	355,403.13
December	556,418.78	363,719.55
1931—		
January	468,429.04	469,573.19
February	429,284.54	461,262.85
March	424,638.23	356,663.38
April	421,814.98	282,532.65
May	435,231.80	322,513.95
June	510,505.78	320,356.13
July	520,009.38	289,219.05
August	476,623.56	393,231.04
September	492,183.83	323,012.50
October	498,124.13	326,834.95

Tide Water Pipe Co., Ltd., also delivered in November, 88,089.55 bbls. Oklahoma oil

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1930-31—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
December	21,419	14,033	122,774	32,839	33,774	224,839	6,290	10,613	2,097	290	19,290	244,129
January	17,613	13,519	154,225	32,902	30,612	248,871	2,032	11,677	2,097	3,097	18,903	267,774
February	31,321	16,929	127,786	31,714	26,857	234,607	4,536	11,571	....	536	16,643	251,250
March	27,645	18,935	141,160	26,290	21,129	238,161	4,065	2,580	....	1,968	8,613	246,774
April	35,000	10,533	105,000	29,767	35,533	215,833	2,733	3,400	....	....	6,133	221,966
May	30,129	8,774	107,000	25,452	26,710	198,065	....	2,000	....	....	2,000	200,065
June	30,067	10,833	111,767	27,000	20,833	200,500	3,300	5,500	2,167	1,333	12,300	212,800
July	26,387	11,226	104,678	29,323	21,773	193,387	6,903	7,419	4,194	....	18,516	211,903
August	32,613	15,581	91,742	22,387	25,741	188,064	4,161	2,516	....	2,162	9,839	197,902
September	27,067	7,267	106,867	26,099	22,967	184,267	4,833	8,333	....	....	13,166	197,432
October	53,710	14,484	160,774	26,742	40,645	296,355	6,097	6,871	2,097	1,833	16,903	253,258
November	48,933	28,800	51,667	28,600	12,967	170,067	2,933	10,833	3,033	1,367	19,166	189,233

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1930-31—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
December	5,516	4,323	30,645	9,678	3,580	53,743	....	....	....	....	4,645	58,387
January	8,387	6,613	21,968	14,678	11,096	62,742	....	....	....	....	6,129	68,871
February	5,787	2,713	29,143	4,000	5,750	47,393	....	....	....	....	3,750	51,143
March	10,032	1,611	21,388	7,324	8,774	49,129	....	....	....	....	6,355	55,484
April	5,133	....	19,200	16,500	10,067	50,900	....	....	....	....	4,000	54,900
May	4,452	3,064	19,903	11,226	6,258	44,903	....	....	....	....	2,355	47,258
June	4,267	....	25,100	6,333	3,500	39,200	....	....	....	....	....	39,200
July	6,774	1,194	24,612	11,065	9,902	53,548	....	....	....	....	1,335	54,903
August	3,452	....	16,419	7,419	4,290	31,580	....	....	....	....	968	32,548
September	4,267	3,667	12,933	4,699	7,367	32,933	....	....	....	....	4,000	36,933
October	2,355	1,129	19,290	16,709	9,323	48,806	....	....	....	....	3,323	52,129
November	1,900	....	22,800	11,567	....	36,267	....	....	....	....	2,366	38,733

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
1930— December:	Month	17,786,728	15,057,103	31,810,359	3,432,661	1,590,951	2,157,534	3,118,663	3,328,000	68,281,999
	Daily average	573,765	485,713	702,560	110,731	51,321	69,598	100,602	107,355	2,202,645
1931— January:	Month	16,485,728	14,650,953	20,019,213	3,432,475	1,574,955	3,135,037	2,966,142	3,374,000	64,638,512
	Daily average	531,793	472,063	645,781	110,725	50,805	68,872	95,682	108,839	2,091,565
February:	Month	14,930,932	13,531,980	18,957,571	3,341,016	1,402,492	1,981,616	2,747,024	3,129,000	60,021,631
	Daily average	533,248	483,285	677,057	119,322	50,089	70,772	98,108	111,750	2,143,629
March:	Month	16,364,842	16,627,687	22,453,619	3,498,598	1,469,245	2,061,576	2,898,035	3,374,000	68,747,602
	Daily average	527,898	536,377	724,310	112,858	47,395	66,502	93,485	108,839	2,217,665
April:	Month	15,803,541	16,315,990	26,887,717	3,381,880	1,412,220	2,003,021	2,901,870	3,273,000	72,384,239
	Daily average	526,785	543,866	896,257	109,396	47,074	66,934	96,729	109,100	2,412,808
May:	Month	16,448,966	17,333,867	28,705,684	3,341,266	1,446,274	2,232,568	3,098,419	3,120,000	75,800,138
	Daily average	530,612	559,157	925,986	107,786	46,654	72,018	99,949	102,900	2,445,166
June:	Month	15,641,436	16,678,200	29,139,833	3,175,440	1,344,450	1,850,511	2,966,200	3,166,000	73,962,070
	Daily average	521,381	555,940	971,327	105,848	44,815	61,684	99,540	105,533	2,466,069
July:	Month	16,093,323	16,467,789	33,327,213	3,090,762	1,387,430	1,715,730	2,905,909	3,341,000	78,729,155
	Daily average	519,139	531,219	1,091,200	99,702	41,530	55,345	93,739	107,774	2,539,650
August:	Month	15,668,984	9,678,510	32,279,816	3,148,887	1,165,445	1,584,444	2,807,143	3,167,000	69,500,229
	Daily average	505,451	312,210	1,041,284	101,577	37,595	51,111	90,553	102,161	2,241,943
September:	Month	15,180,610	7,930,830	28,981,525	3,151,770	1,138,380	1,641,384	2,761,230	3,632,000	64,417,729
	Daily average	506,020	264,361	966,051	105,059	37,946	54,713	92,041	121,067	2,147,257
October:	Month	15,651,983	12,951,893	30,726,173	3,177,066	1,172,289	1,822,255	2,797,597	3,900,000	72,198,356
	Daily average	504,903	417,803	991,134	102,486	37,819	58,782	90,247	125,807	2,328,979
November:	Month	14,997,700	16,430,730	28,860,561	3,131,670	1,130,700	1,851,577	2,706,390	3,639,000	72,748,328
	Daily average	499,923	547,691	962,018	104,389	37,690	61,719	90,213	121,300	2,424,946
Total 12 months		191,054,776	174,355,532	322,651,283	39,203,591	16,134,931	23,042,253	34,694,623	40,513,000	841,649,981